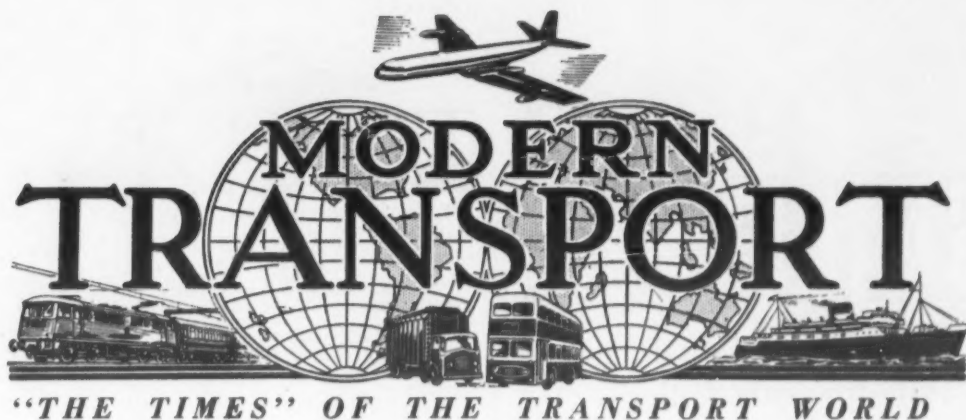


ACCs

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WORK IN PROGRESS AT PERTH

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VOL. LXXXIII No. 2140

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LONDON, MAY 21, 1960

PRICE ONE SHILLING

Another Big Bluff?

IMPOSITION by Mr. Ernest Marples, Minister of Transport, of a general speed limit of 50 m.p.h. on certain roads as an experiment over the Whitsun holiday period is unlikely to achieve a significant reduction of accidents, though it might well lead to even greater congestion on these routes at peak-traffic periods, and thus to greater frustration and a climate in which accident material is nurtured. Apart from the thruster, who admittedly occasionally involves himself and others in an accident of the more spectacular kind, few drivers either can or attempt to drive at holiday time at more than 50 m.p.h. in the solid masses of traffic found on the roads selected for the experiment. By far the majority of accidents under these conditions occur at comparatively low speed and causes can often be traced back to inattention, probably engendered by the boredom of this type of driving. Arbitrary restriction of the kind proposed will make overtaking, where it was hitherto practicable and safe, more hazardous, since it will take longer to complete the manoeuvre, and will thus prevent, limit or make dangerous the sorting out that now takes place on more open stretches of even crowded highways. Restriction will thus inevitably lead to bigger build-ups at the bottlenecks. It will deter neither the aggressive driver nor the speed maniac, for who is to enforce the new limit?

Adequate Enforcement Needed

THE police cannot be everywhere at once and there is little evidence that the habitual wrongdoer on the roads is ever checked short of an accident, without enforcement of a general speed limit to contend with. One thing that might keep the dolt's mind on his driving and the hog's foot off his accelerator is fear of being caught. Let the Minister organise a maximum effort of police patrols out with the holiday motoring crowds, borrowed from neighbouring forces if necessary; let him advertise the fact that they are going to be there; let him arm them with loud loud-hailers to call the careless or inattentive to order; let him have them and subsequently the courts jump hard on the law breaker at major roads, double white lines, traffic lights and in built-up areas; in fact, let him take some positive action towards enforcing the entirely adequate rules, regulations and laws we already have and one could guarantee a spectacular improvement in driving standards and reduction in road accidents. If the new 50 m.p.h. speed limit achieves any positive result at all, it will have succeeded only temporarily by as big a bluff as the Minister allegedly admits the Pink Zone to have been; our present desperate ills on the roads need more permanent remedies.

Cats Among the Pigeons

WHEN Dr. C. S. Andrews, chairman of Coras Iompair Eireann, reported recently to the senior managerial staff that, in the financial year to March 31, the undertaking had increased its revenue by £800,000 and reduced its overall deficit by well over £1 million to £700,000, he was placing on record a very creditable achievement. Mr. Frank Lemass, the general manager, added, moreover, that there had been an improvement of £700,000 on the railway section alone. There remains, of course, much to be done if the undertaking is to pay its way by March, 1964, and it is obvious that more pruning of seriously unremunerative railway services will be necessary. Any such step is, however, likely to meet considerable opposition and it was doubtless with the idea of hammering home the seriousness of the position that Mr. E. A. Grace, the assistant general manager, has put several large and rampagous cats among the pigeons of Dun Laoghaire, Killiney and points south-east thereof. He suggested that the annual loss of £137,000 on operating the suburban train service between Dublin and Bray was unreasonable. While a great deal of consideration would be given to the matter before any steps were taken, the revenue would have to be increased threefold merely

CURRENT TOPICS

to cover direct costs. This address has been followed by the customary flood of letters to the newspapers, passing of resolutions by representative bodies, and the rest, but it seems probable that retention of the service will involve at best shutting many of the intermediate stations which are rather closely spaced. There are, of course, frequent buses on the Dublin-Dalkey route which superseded the trams over roads parallel to the railway most of the way. One thing has been achieved; that is belated realisation that those wanting to keep trains must use them.

parking the whole roadway in the towns should be available for the movement of traffic. The co-ordinated service with the City of Exeter continued to work successfully, with new services to the airport and to the university. Liaison with British Railways through the Standing Joint Committee was close; withdrawal of Newton Abbot to Moretonhampstead trains had involved additional timings and a diversion via Lustleigh. During the year 35 new vehicles, costing £181,233, had been placed in service, including 17 large-capacity double-deckers,

and flown by Captain H. Shaw, operated the first flight from London to Amsterdam and thereby established the airline on a route which it has maintained ever since, save for the period of German occupation of the Netherlands. Both Sir Frank and Jerry Shaw were among the passengers on the DC8 when it arrived at London Airport for the naming ceremony. Guests were later able to inspect the aircraft and to admire the very effective colour schemes and the excellent layout of passenger amenities such as seat lights, ashtrays and individual air supplies. The airline is full of reasoned optimism as to the future which lies ahead of its new jet fleet, although its deputy president, Dr. E. H. van der Beugel, made an eloquent plea for increased freedom for air transport by removing political shackles.

LEADING FEATURES IN THIS ISSUE

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It Has Come to Stay

IN a criticism of the alleged non-activity of the present Minister of Transport in a Sunday newspaper article, Lord Boothby conceals a sharp attack on road haulage. "Get the heavy traffic off the roads and on to the railways, which badly need it," he says, "by limiting the weight and size of vehicles and keeping lorries off the roads for specified hours in congested areas. Our existing roads," he adds, "were never designed to carry loads of more than three tons and leave a margin of safety." It should not be difficult for Lord Boothby to discover that the safety record of commercial vehicles is a very high one and that the larger types are seldom involved in accident. Many of their drivers have been on the roads year in and year out for very long periods without even an incident which reflects discredit on them. As to obstruction, only the most rabid critic would deem a heavy weight notably less manoeuvrable than a 3-tonner. The railways do need traffic, but they will get it on their merits of price and service, not by coercion. The advantages of road transport in convenience and in reducing the cost of living are manifest; it is important not to throw them away by increasing delivery costs for the benefit of the pleasure motorist by closing the streets to use by lorries during part of the day. Road freight transport is here to stay.

Parking at the Seaside

LOCAL authorities in coastal resorts are often reluctant to take action towards stringent enforcement of no-parking regulations lest they discourage visiting motorists, said Mr. W. M. Dravers, chairman, to the recent annual meeting of Devon General Omnibus and Touring Company proprietors. If they take no action, however, the effect may be precisely what they are so anxious to avoid. If Devon and its resorts become notorious for inordinate traffic delays—and the writing is already on the wall—holidaymakers will seek fresh woods and pastures new. He pointed out that those waiting at wayside bus stops were entitled to expect a high degree of punctuality and it was therefore important that by restricting

12 one-man single-deckers and six coaches. The new bus station at Newton Abbot enabled the adjacent temporary station to be developed as a maintenance and repair depot which in turn would make it possible to dispose of Kingsteignton garage. A joint station with Western National should be available at Paignton by June.

Fourth Historic Vehicle Rally

BEAULIEU, well-known to all vintage vehicle enthusiasts for its unique museum, is to be the venue of the fourth rally to be staged by the Historic Commercial Vehicle Club, of which Lord Montagu of Beaulieu is chairman. The rally is being held over the Whitsun weekend, June 4 and 5, with a social gathering of club members, competitors and their guests on the Saturday evening and major rally events on the Sunday. An opportunity will also be provided for visiting the Beaulieu Motor Museum. The club committee has decided to discontinue regular monthly meetings during the winter session and instead to offer a programme of a few meetings, at each of which a speaker of wide repute on subjects of interest to club members will be engaged. The talks will be widely publicised and meetings will be open to non-members, by which means further support for the club is expected to be engendered. Owners of historic commercial vehicles, whether club members or not, wishing to enter the rally at Beaulieu are invited to apply to the organiser, Mr. K. C. Blacker, 39 Mitchell Road, London, N.13. Entry is free to full members and costs 10s. 6d. for associate members; outsiders pay a guinea fee.

A Merited Honour

IT was a happy thought of K.L.M. (Royal Dutch Airlines) to name one of its new Douglas DC8s *Sir Frank Whittle*, even if, as Sir Frank pointed out in his speech at the ceremony on Tuesday, he seemed to be the only one of the aviation pioneers commemorated in the fleet who was still alive. Equally appropriate was the date, for it was on May 17, 1920, that a DH16 of Aircraft Transport and Travel on charter to K.L.M.

Sydney Expressways

AN American firm of engineering consultants is to design expressways for the central metropolitan area of Sydney, at an estimated fee of £200,000. De Leuw, Cather and Company will begin work shortly. Investigations and planning will be in four phases. In the first the company will question motorists about their starting places and destination at a line drawn around the centre of the city, at a second line about five miles out, and at another drawn east-west through the city. Using this information it will prepare data to be used for the immediate planning of the expressways, and for the future planning of traffic and road improvements, as well as parking improvements. In the second phase general plans will be prepared for the Warringah expressway, from the northern end of Sydney Harbour Bridge to Ernest Street, North Sydney; the western distributor, from the southern end of the bridge to near Jones Street, Ultimo; the western expressway, from Jones Street to Annandale, including the Ultimo interchange, and alternative alignments for the main route; alternative alignments for the eastern distributor. Phase III is the making of detailed plans and estimates, while the fourth will be preparation of complete working drawings for the Warringah expressway, brought to the stage where tenders could be called. It is expected that this will take nine months.

United Kingdom Oil Consumption

OIL consumption in the United Kingdom rose by 17.5 per cent in 1959 compared with the previous year, to reach a total of 36½ million tons (excluding bunkers for ships engaged in the foreign trade), according to final figures recently issued by Petroleum Information Bureau. Fuel oil consumption (including that for public electricity generation) again showed the greatest increase, being almost a third higher and reaching nearly 14 million tons. Gas-diesel oil deliveries were up by 4.6 per cent, but usage of this product in gasworks is declining because it is being replaced by light distillate feedstock and petroleum gases. If gas oil for gas-making is excluded, the increase in demand amounted to 13.3 per cent. Over 7 million tons of motor spirit were consumed during the year—7.5 per cent more than in 1958. Deliveries to garages and service stations were higher by 10.8 per cent, but consumption of motor spirit by commercial users fell by 3 per cent, due to the growing use of diesel-engined vehicles. Their demand for fuel expanded by 11 per cent and aviation fuels were 4.1 per cent higher at 1,628,425 tons, reversing the downward trend of the first nine months of the year, while deliveries of propane and butane increased by 40.5 per cent and bitumen consumption reached a record figure of nearly a million tons as a result of increased road-building activity. Besides its statistics of 1959 consumption, Petroleum Information Bureau issued figures to indicate the remarkable growth in U.K. oil demand during the past score of years. These show that deliveries of all products were 8,990,686 tons in 1938, reached 12,766,025 tons in 1948 and just topped 19 million tons in 1953, compared with last year's record of 36½ million tons.

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate.

Safeguarding the Interests of Transport Users

THE year 1959 was the busiest in the history of the area transport consultative committees: hence a great increase in the work of the Central Transport Consultative Committee which amongst other things has to consider and approve (or otherwise) all the recommendations of the area committees. Remarking on this fact in its eleventh annual report (H.M. Stationery Office, 1s. net) the Central Committee states that this increase of work has not begun to reach the peak anticipated from the British Transport Commission's intention, expressed in Cmd. 813 (Re-appraisal of the Railway Modernisation Plan), to close 1,850 route miles of line during 1959-63 as against a mere 300 during 1954-58. In this connection the report records that during 1950-58 annual savings from the closing of lines and stations amounted to roughly £2,586,339, to which must be added a figure of £695,458 for last year. Small wonder that with the increase in the tempo of the modernisation plan and the pressing need for railway economies the committee should consider that "the machinery of the consultative system may have to be substantially strengthened if it is to function effectively." The problem is under consideration with the area committee chairmen, who have already recommended to their members a special procedure for accelerating the closure of very small stations and sidings where revenue is trivial and apparent hardship negligible. The area committees, of course, have to consider all closure proposals and none must be put forward by the Commission unless already subjected to the most stringent examination and every operating alternative has been considered. Not surprisingly, therefore, the committees confirm most of the proposals, and the report refutes suggestions of "rubber stamp" methods.

Towards Greater Efficiency

THE Central Committee reiterates that more could be done by the area committees to improve relations between users and providers of transport, and it avers that many people who could make good use of the committees are still completely ignorant of their existence. Meanwhile the Central Committee is "exploring various lines of approach with the Commission" in an endeavour to satisfy itself that improvements are constantly taking place in the means employed to provide punctual trains and to ensure cleanliness in trains and stations, efficient amenities and conveyance of proper information to passengers. As to train running, the Committee realises that in present conditions of transition some unpunctuality is unavoidable but it observes a tendency sometimes on the part of the Commission to plead these factors in excuse of

failures not always occasioned by them; as unpunctuality causes the greatest number of complaints by passengers (nearly 25 per cent of the total) it is a subject which should be constantly examined. The Committee welcomes the fact that the Eastern Region has joined the London Midland in increasing the margin of allowances for delay and thus making timetables more realistic. "The introduction," it says, "of some kind of cushion to militate against persistent lateness reduces frustration, as passengers more easily appreciate that those delays which remain are due to difficulties which are for the time being insuperable. The problem is not only technical but also psychological, and this aspect needs stressing to a greater extent than hitherto."

Cleanliness

INTERIOR cleanliness of passenger coaches is not a simple problem and there is need for considerable study towards improving the tools and methods used. Cleanliness indeed has a direct bearing on the quantum of passenger traffic, and the report urges that an improved standard should be part and parcel of the modernisation campaign, though it admits that progress is at present impeded by shortage of staff in certain areas. Exterior cleaning is another problem:

A train may start its journey with spotless paintwork, but if it travels through a wet tunnel or cutting on a rainy day for only half a minute it may emerge coated with a film of mud; or excessive diesel exhaust may have a very similar effect on the coaches immediately behind the locomotive. If the train has to return again in service immediately after reaching its destination passengers joining it, who know nothing of the circumstances of the incoming journey, are apt to comment more rudely than is justifiable. Some time ago the Committee inspected a very large and elaborate cleaning establishment at Willesden where London Midland main line trains are cleaned and examined in a most efficient manner, and they are glad to hear that the Commission are providing similar cleaning plants in various parts of the country.

Cleanliness of stations is "difficult to achieve without special effort," and the Committee is not satisfied that the effort is being made as effective as it might be, expressing the hope that recent newspaper criticism "will have inspired the Commission to investigate the whole field of station cleanliness and maintenance with a view to improving the present standard." The report says that it is easy to blame the public and say their habits are responsible for the litter, and that that is true to some extent, but adds the conviction that most passengers prefer cleanliness and that, given a proper lead and reasonable facilities, the remainder could be induced to respond. The lead, however, must come from the Commission, which should seek to raise its own standards and increase the facilities for the prevention of litter, both in trains and on stations.

Contacts with the Public

THE Committee is awaiting information from the Commission about what is being done to improve the arrangements for telling people about the late running of trains. No marked improvement has been noticed in the public address services at large stations—a difficult and expensive problem owing to poor acoustic conditions at old stations and the cost of installing modern equipment—but arrangements for giving passengers emergency information by notices and other means are found to be much better. [It could have added that other large buildings and stadiums are similarly cursed.] On complaints in general the area committees are stated to be anxious to know more about the volume of the representations which reach the Commission because they feel that one of their functions is "to try to interpret the views of the users to the Commission." It is emphasised that the committees do not make a practice of investigating grievances unless these have previously been presented to the regions concerned and have not been satisfied; "but only if they can be made broadly aware by the Commission of the volume and classification of complaints, whether made by passengers, manufacturers or traders, can they properly represent the transport users of the country as a whole." The report's review of a few of the more interesting closure proposals demonstrates the care with which they are examined and the sort of facts which lead to decisions.

NEWS SUMMARY

LONDON TRANSPORT has decided to advance to 1962 the completion of its trolleybus abandonment programme (Page 4).

Trans World Airlines and Northeast Airlines announced proposals for a merger on May 17. It would be on a basis of three Northeast shares for one T.W.A. Any such step would require the approval of the Civil Aeronautics Board.

The SRN1 Hovercraft was demonstrated on the Thames between Battersea and Westminster on the afternoon of May 17. Plans have been announced for the production of larger versions. (Page 14).

After a three-day hearing by a Lands Tribunal, the claim of the Festiniog Railway for between £180,000 and £200,000 from the

Central Electricity Generating Board in respect of a section of line flooded by the establishment of a reservoir, the decision was reserved.

The various regions of British Railways have announced that ordinary fares will be increased from June 12. As foreshadowed second-class fares for distances of 200 miles or less will be increased by 4d. a mile, for distances of 201 to 275 miles the increase will taper downwards, and for 276 or more miles the fares will remain unchanged. Various holiday fares will also stay the same.

The Melbourne underground railway scheme is now to have a four-track loop (three were originally proposed) and the Clifton Hill railway will now be coupled to it so that all suburban trains of the Victoria Railways except those from Flinders Street to St. Kilda and Port Melbourne can use it.

FRUITS OF MODERNISATION

Increased Freight and Passenger Traffic

SOME B.T.C. RESEARCH PROJECTS

A RECENT review by the British Transport Commission of the progress of the British Railways modernisation programme was the subject of editorial comment in our last issue and it will have been seen therefrom that one of the most striking results has been the substantial increase in passenger traffic on lines where electric or multiple-unit diesel traction has been adopted. There have, of course, been earlier examples, particularly in connection with electrification schemes, but the wide areas covered and the substantial nature of the improvements make it desirable to place these figures on record and this is done in an accompanying table.

While there has not, as yet, been a less startling rise in the volume of freight traffic, the effects of the 1958 recession in the heavy industries have now been more than offset and figures for the first 15 weeks of 1960, as compared with last year, show increases in all classes of traffic as may be seen from the figures set out below.

	1959 (First 15 weeks)	1960 (First 15 weeks)	+ or - (millions)	Per cent
Traffic				
General merchandise	10.7	11.7	+ 1.0	9.5
Minerals	14.6	17.2	+ 2.6	18.0
Coal and coke	45.6	46.8	+ 1.2	2.6
All freight traffic	70.9	75.7	+ 4.8	6.8

Freight train speeds are steadily rising as more wagons are fitted with continuous brakes. About 300,000 wagons—nearly one-third of the total fleet—are now equipped, and all merchandise wagons should be fitted by the end of this year. In 1938 there were about 290 express freight trains daily. There are now nearly 1,000. The end-of-year figures of the daily average number of express freight trains since the modernisation programme began, illustrate this trend towards faster services:

1954	1955	1956	1957	1958	1959
485	529	591	756	850	990

Cars by Rail

Among many other traffics which the railways are carrying on an increasing scale, are large numbers

such diverse studies as the flow of air through pipes, leading to improvements in vacuum brake design; the stability of long-welded rails, with subsequent improvement in track standards; behaviour of axle bearings, leading to smoother riding; improvement of adhesion between steel wheel and rail; new forms of insulation for 25,000-volt a.c. electrification; and automatic recording of freight wagon movements.

Research

The studies under operational research have included the impact of wagons during shunting; speedy transmission of information for traffic purposes; and fluctuations in traffic flow and use of regular-interval services to make more intensive use of rolling stock. In chemicals, research has covered among other things studies of the effects of diesel engine exhausts; analysis of oils to determine engine wear; and the development of new paint finishes.

Three technical development units established at Stoope Works (near Darlington), at Derby, and at Leyton, have enabled new ideas to be worked out, tested, and applied more quickly and widely than before. The Stoope development unit deals with design of rolling stock, freight containers, heating and ventilating apparatus, and goods handling equipment. Development of automatic warning apparatus has been centred upon the Leyton installation, and the Derby unit is concerned with diesel locomotives.

Completed Studies

Many research studies have been completed, others continue, and some have been developed to the point where practical application is under trial. Some examples of the latter include wheel adhesion where research involves new methods of distributing sand, and further examination of chemicals, notably silicates, to improve adhesion between wheel and rail. Another subject is engine oil analysis where the amount of contaminants in the oil is measured by a spectrograph, and correlated with known data about the engine. The ultimate aim is to be able to forecast for those

PASSENGER INCREASES SECURED IN SELECTED SCHEMES

ELECTRIFICATION				
Kent Coast Electrification Scheme				
Introduced June 15, 1959				
Period	Passenger journeys	Increase	Receipts	Increase
Six months ended December 31, 1958	3,889,178		£76,827	
1959	4,939,899	1,050,721 (27.02%)	727,452	150,625 (26.11%)

(These figures refer to originating bookings at stations in the newly electrified area—they do not include bookings from the London termini or other stations in the existing electrified area.)

Shenfield—Chelmsford and Shenfield—Southend Electric Services. (Extension of Liverpool Street—Shenfield service.)

Period	Passenger journeys (excluding season tickets)	Receipts (tickets)
Last year of steam working		
Shenfield—Chelmsford		
12 months ended June 30, 1956	718,136	£139,570
Shenfield—Southend		
12 months ended Dec. 31, 1956	1,894,466	£252,853
	2,612,602	£492,423

Period	Passenger journeys	Increase	Receipts	Increase
12 months ended Dec. 31, 1958	5,420,335		£1,068,647	
	+2,807,738		+£575,624	
	(107%)		(117%)	
12 months ended Dec. 31, 1959	5,913,369		£1,211,234	
	+3,900,767		+£718,811	
	(126%)		(146%)	

DIESEL MULTIPLE-UNIT TRAIN SCHEMES				
Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Crete—Stoke-on-Trent—Derby				
Introduced September 16, 1957				
Sept. 30, 1957	919,050		42,878	
March 31, 1959	1,303,786	384,736 (42%)	68,552	25,674 (60%)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Yarmouth—Lowestoft				
Introduced September 16, 1957				
Sept. 30, 1957	408,782		19,475	
March 31, 1959	610,745	201,963 (49%)	29,393	9,918 (51%)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Darlington—Saltburn				
Introduced August 19, 1957				
Sept. 30, 1957	2,826,449		130,197	
March 31, 1959	3,623,221	796,772 (28%)	182,441	52,244 (40%)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Leeds—Barnsley				
Introduced March 3, 1958				
March 31, 1958	204,154		8,158	
March 31, 1959	740,531	536,377 (263%)	42,063	33,905 (416%)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Hampshire Area—covering the following lines: Portsmouth—Southampton—Salisbury; Southampton—Alton; Southampton—Winchester (via Eastleigh); Portsmouth—Andover (via Botley).				
Introduced September 16, 1957				
Sept. 30, 1957	2,720,886		190,476	
Sept. 30, 1958	3,602,624	881,738 (32%)	280,408	89,932 (37%)
Sept. 30, 1959	3,939,630	1,218,744* (45%)	286,764	96,288 (50%)

*Increase on last year of steam operation.

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Edinburgh Suburban Services				
Corstorphine—North Berwick. Introduced February 3, 1958				
Edinburgh—Glasgow (via Peebles). Introduced Feb. 17, 1958.				
Jan. 31, 1958	646,850		31,540	
March 31, 1959	958,611	311,761 (48%)	57,084	25,544 (80%)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Edinburgh Princes Street—Leith North. Introduced May 5, 1958.				
April 30, 1958	516,435		6,844	
April 30, 1959	717,021	200,586 (39%)	9,425	2,781 (42%)

DIESEL MULTIPLE-UNIT TRAIN SCHEMES—Continued				
Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Corstorphine—Edinburgh, Outer Circle and Rosewell, Musselburgh—Edinburgh and Inner Circle. Introduced June 9, 1958.				
May 31, 1958	1,124,014		19,852	
May 31, 1959	1,317,209	193,195 (17%)	25,018	5,166 (26%)

Overall, the scheme has produced an increase of 705,544 passenger journeys in the first year of diesel operation representing 31% and an increase of £33,491 (58%) in receipts.

Birmingham New Street—Lichfield Introduced March 5, 1956

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Feb. 28, 1956	742,281		24,106	
Feb. 28, 1957	1,945,198	1,202,917 (162%)	70,096	45,990 (191%)
Feb. 28, 1958	2,512,397	1,770,116* (238%)	88,874	64,768* (289%)

*Increase on last year of steam working.

On November 17, 1958, a much wider introduction of diesel multiple-unit services was made in the Birmingham area by the London Midland Region covering the following lines: Birmingham—Coventry—Rugby; Birmingham—Wolverhampton—Stafford; Birmingham—Walsall—Rugeley; Birmingham—Walsall (via Sutton Park); Wolverhampton—Burton-on-Trent (via Walsall and Lichfield); Dudley—Walsall; Leamington Spa—Coventry—Nuneaton; Rugby—Nuneaton—Stafford; Birmingham—Lichfield (existing diesel service recast to fit in with other diesel services).

Results achieved in this wider scheme in the first year of operation were as under:

Greater Birmingham Area (London Midland Region)				
Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Dec. 31, 1958	7,578,299		437,277	
Dec. 31, 1959	8,166,075	587,776 (7.75%)	483,349	46,072 (10.53%)

Birmingham Area (Western Region)

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Introduced June 17, 1957				
Covering the following routes: Leamington Spa—Birmingham Snow Hill—Wolverhampton; Birmingham—Stratford-upon-Avon; Leamington Spa—Stratford-upon-Avon; Birmingham—Stourbridge Junction—Bewdley; Old Hill—Dudley; Birmingham—Sutton Coldfield—Stourbridge Junction—Wolverhampton; Wolverhampton—Wellington (Salop).				
June 30, 1957	9,499,478		475,953	
June 30, 1958	10,442,546	943,068 (10%)	530,496	54,543 (11%)
June 30, 1959	Not available		550,783	74,830* (16%)

*Increase on last year of steam working.

Newcastle—Middlebrough Diesel Services Introduced Nov. 21, 1955.

Period	Passenger journeys	Increase on last year of steam	Receipts	Increase on last year of steam
(year ended)				
Oct., 1955 (steam)	3,318,035		207,310	
October, 1956	3,579,234	261,199 (8%)	260,378	53,068 (26%)
October, 1957*	4,035,404	717,369 (22%)	312,312	105,002 (51%)
October, 1958	3,701,779	383,744 (12%)	333,839	126,629 (61%)
October, 1959	3,705,189	387,154 (12%)	335,759	129,449 (62%)

*Fuel oil rationing December, 1956—May, 1957. National bus strike July, 1957.

Period	Passenger journeys	Increase	Receipts	Increase
(year ended)				
Glasgow—Edinburgh via Falkirk				
Introduced Jan. 7, 1957				
Dec. 31, 1956 (steam)	2,173,627		334,008	
Dec. 31, 1957	2,733,357	559,730 (26%)	429,759	95,751 (29%)
Dec. 31, 1958	2,846,318	671,691 (31%)	451,469	117,461 (38%)
Dec. 31, 1959	3,091,064	917,437 (42%)	487,156	153,148 (46%)

of motor cars. They include new vehicles from the factories, and cars accompanied by drivers and their passengers who prefer to travel by railway car-carrier services and avoid long and tiresome journeys over congested roads. In the first 12 weeks of this year, the number of fully assembled cars alone which was carried to destinations in Britain and to the docks for export, was nearly 27,000. During 1959, more than 32,500 passengers and over 11,300 cars travelled by overnight car-carrier services. This year, there will be more trains of this kind, including two new day services.

Output of long rails will increase as more rail-welding depots come into full production. Rail-welding depots have been established at Dinsdale (near Darlington), Chesterton Junction (near Cambridge), Motherwell, and Redbridge (near Southampton). Two more will come into full operation this year, at Castleton (near Manchester), and Hookagat (near Shrewsbury). A second welding plant is to be installed at the Redbridge depot. At the end of 1959 long-welded rails had been laid on 200 miles of track. Another 240 track-miles of long rails will be laid this year, and by mid-1961 the output should allow for 320 track-miles a year.

The volume and scope of B.T.C. research, started well in advance of the modernisation programme and has increased as the programme has developed. Research work in less well-known fields has included

responsible for engine maintenance the state of a particular engine at any time without dismantling.

Transistor techniques have been applied to the control and indicating elements of electric signalling systems, and a number of installations is working. Study is now being directed to applying these techniques to other aspects such as signal interlocking and track circuits which are primarily responsible for safety. They must, however, first show that they can surpass the record of reliability of existing track circuit relays, which can operate for five years in a sealed box and have a failure rate of only one in thousands of millions of operations. Resin-covered glass-fibre cables have been developed to support the live parts of the overhead electric wires used in railway electrifications on the 25,000-volt a.c. system. This may result in very substantial savings in the cost of insulation and fittings. Some of these cables are already in use.

Among other developments which are under examination are the adaptation of electronic computers for the speedier compiling of timetables; and the automatic identification and recording of freight wagon movements by an electronic apparatus which can scan identification plates fixed to wagons as they pass by and convey the information electrically to any selected point. Investigation is also to be made into the characteristics of a pair of rails used as a wave guide.

ELECTRIFICATION

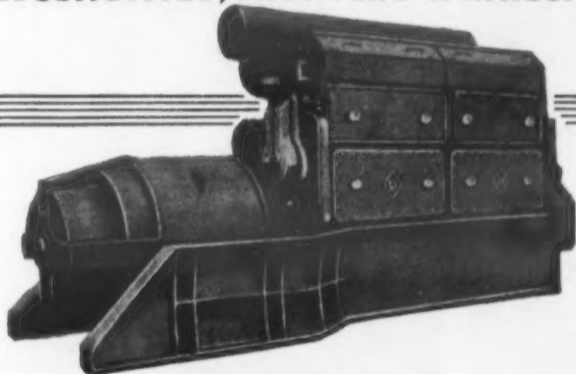
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LORRY—BUS—COACH

Total Replacement of London
Trolleybuses

LONDON Transport announced this week that it has decided to complete the conversion of all London trolleybus services to diesel bus operation by 1962. This will mean eliminating the small group of 110 postwar B.U.T. 8-ft. wide trolleybuses in south-west London which it was previously intended to leave for a further period. Seven routes are affected in Kingston, Tolworth, Surbiton, Wimbledon, Hampton Court, Twickenham, Hounslow, Chiswick, Hammersmith and Shepherd's Bush. These routes will all be converted to operation by Routemaster diesel buses, following on immediately after the completion of the original conversion scheme now in hand, which is planned to be finished in January, 1962. The 110 B.U.T. trolleybuses referred to operate from Fulwell and Isleworth depots (the latter will be closed). They date from 1948 and 1952, being part of two batches of 77 and 50 respectively. The balance operates from Hanwell depot. They will be offered for sale, unlike the rest of the fleet, which is being scrapped. This telescoping of the abandonment plan will obviate certain power supply re-equipment work which would have been necessary.

London Bus Excursion Programme

THIS summer London Transport is introducing as an experiment a feeder bus service in the New Cross—Abbey Wood—Bexleyheath area in connection with its Sunday excursions. Buses will pick up people in this area and take passengers to New Cross Garage where they will transfer to the excursion bus of their choice. By this means passengers will have a wider selection of trips—London Airport, Kew Gardens, Windsor, Chessington Zoo and Hampton Court—alternating weekly throughout the season. Last year 35,000 people travelled on all these summer Sunday bus excursions.

Meeting Seaside Peak Demands

HASTINGS Town Council was told by its Transport Committee on May 11 that the traffic manager of Maidstone and District Motor Services, Limited, Mr. Stanley Smith, had discussed the summer bus services with them, and had told them that there was no justification for increasing frequencies generally, except possibly in the very height of the season. Even then, Mr. Smith had said, he could not agree to showing increased frequencies throughout the day in the timetable; but he was prepared to allocate extra vehicles to certain routes so that they could be run as and when needed. Certain proposals regarding frequencies were to have come before the Traffic Commissioners this month, but the committee has now withdrawn them in view of this undertaking. There was too much vagueness about the proposal, argued Councillor Mrs. V. M. Jones, who asked how the peak period rush was to be dealt with. Councillor L. S. Boutwood, chairman of the Publicity and Public Relations

Committee, added: "I have been assured by Mr. Smith that the extra buses will not bear that ridiculous destination 'Relief.'"

Unloading Ban Deemed Unreasonable

PROPOSALS by Newcastle upon Tyne City Council to ban the unloading and loading of motor vehicles in 13 main streets during peak hours were described as "unnecessary and unworkable" at a Ministry of Transport inquiry last week. Mr. J. P. Thompson, deputy Town Clerk of Newcastle, said they were the result of discussions lasting several years. More than 220 traders submitted a petition against the ban complaining that it would cause inconvenience and financial loss. Mr. J. L. R. Croft, for the British

of the traffic congestion problem simply by the strict enforcement of existing regulations but at the same time the police have always taken account of the fact that in some cases it is quite impossible for loading or unloading to be completed within the period provided, and have extended the period accordingly. This must be maintained under the ticket system.

I.R.U. Congress at Dubrovnik

RATES schedules for national and international road transport and greater freedom for international operation were prominent among the subjects discussed by road goods operators at the seventh congress of the International Road Transport Union at Dubrovnik on May 11 and 12, under the chairmanship of the president, Mr. Paul Schweizer (Switzerland). Mr. L. Raucamp (German Federal Republic) president of the road haulage section, said that although the economic policy of most European countries was in favour of breaking down the artificial barriers little progress has been made in freeing goods transport. He appealed to the governments for the more liberal grant of permits for entry, exit and transit. One of the aims of I.R.U. was a quota system adequate to

Government and is succeeded by Mr. P. Groenedijk.

One of the resolutions adopted by the congress called on the national governments to adhere to the permitted length of 18 metres (59 ft.) for road trains laid down by the Geneva Convention of 1949, and already in force in the majority of European countries. Representing Great Britain at the congress were Messrs. J. A. Murly and F. R. Lyon (R.H.A.), F. D. Fitz-Gerald (T.R.T.A.), H. W. Elliott (B.T.C.), and E. Woodbridge (S.M.M.T.).

More London Office Hours Changed

TWO more large London offices employing more than 4,500 staff have gone over to staggered hours to help ease rush-hour travel, the London Travel Committee announces. The 3,000 staff of the Commercial Union insurance group are now starting work at 9.15 a.m. and finishing at 4.45 p.m. to avoid the height of the City peak, 9.30 a.m. and 5 p.m., and at the General Electric offices in Holborn over 1,500 staff now finish work 10 minutes earlier at 5.15 p.m.

Moved On After 50 Years

FOR about 50 years, Midland "Red" buses have had a terminus outside St. Martin's, the parish church of Birmingham, in Bull Ring. Now these routes, to the east and south-east, have been displaced in consequence of alterations to the Bull Ring, across which the new inner ring road will pass. Buses for the Coventry, Warwick and Stratford roads are now loading at temporary stands in Digbeth and Moor Street until the new bus station is built.

Should Delivery Drivers Keep Log Books?

AT Harrogate the annual conference of the National Dairymen's Association passed a resolution calling for continued efforts to be made to secure the abolition of the need to keep log books on battery-electric vehicles; recommending that a new group be included in the driving licence to cover the drivers of electric vehicles; and recommending that full support be given to the "once-for-all" driver's log book certificate for vehicles operating retail delivery rounds on a limited mileage. The Association represents nearly 7,000 dairymen in England and Wales.

Bus and Coach Developments

G. A. Baxter, Moggerhanger, seeks the excursions and tours from Kempston, Bedford, of the late C. Symes. Birmingham and Midland Motor Omnibus Co., Limited, proposes a daily service between Banbury and Stratford-on-Avon via Brilles and Shipston-on-Stour. R. Chisnell and Sons, Limited, is applying to revise a number of its local services at Winchester. Southdown Motor Services, Limited, proposes to extend its Petworth—Bignor service (638) via Bury to Arundel to replace 684 (Arundel—Sutton). Western Welsh Omnibus Co., Limited, proposes to link journeys on its Cadoxton—Cardiff with the Cardiff—Blackwood service. Mulley's Motorways, Limited, Ixworth, applies for the Coggeshall—London coach service of S. Blackwell and Sons. G. L. Hobson and R. Douch, Morecambe, seek the excursions and tours of T. C. Yates (West Coast Motors). Rochester and Marshall, Limited, Great Whittington, applies for a Kirkheaton—Hexham service replacing two services of R. and M. Motors, Limited. London Transport started its customary summer weekend Central bus route extensions on May 14-15. On Sundays route 57a is curtailed to operate Camden Town—South Croydon Garage and 83 is extended from Ealing Broadway to London Airport (Central) instead of route 112. Route 12 is extended to Shepherd's Bush (Wells Road) and 124 is renumbered 124s on Sundays, when it operates to Bexley Hospital. Route 77 is curtailed Saturday p.m. at Aldwych.



Seen at the Rugby League final at Wembley: left, Ford Thames of New Viscount Coaches, London, W.1, with Burlingham body, and an Albion Victor with Yeates body, from Nuneaton; right, a 14-seat Karrier with Plaxton body operated by T. H. Parkinson, Heckmondwike

Transport Commission, said the ban would merely create another peak period in what was now an off-peak period. In most cases, traders would have to use extra vehicles to cope with delivery problems which would be created.

B.R.S. Moves from Goswell Road

NEXT week B.R.S. (Parcels), Limited, prepares to vacate the London parcels area headquarters and depot at 128 Goswell Road, E.C.1, for so long the head office of Carter Paterson. The area offices will in future be in the new building at 238 City Road, E.C.1, under the same roof as the South Eastern Division of B.R.S.

Goods Vehicles and Ticket Offences

FLEXIBILITY must be applied to commercial vehicles in relation to ticket fines, says Mr. H. R. Featherstone, national secretary of the Traders' Road Transport Association. The T.R.T.A., he explains, has long maintained that a major contribution could be made to the solution

ensure the free passage of goods by road. He called for a reduction in taxation on road transport, in some countries prohibitive. National rates schedules were urgently needed, he said, and it was regretted that so little had been achieved except in Western Germany and the Netherlands.

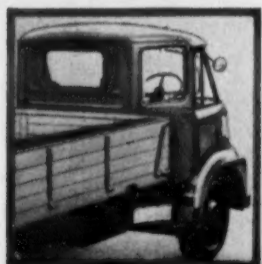
Mr. Paul le Vert, director of the transport division of the Economic Commission for Europe, pointed out that even the members of I.R.U. were not unanimous on the question of publishing national rates schedules. He gave a warning against any rates system for road transport based on the value of the goods. This would inevitably lead to an uneconomic increase in the use of traders' vehicles. In his presidential address Mr. Schweizer said that, co-ordination of transport must not involve measures likely to handicap road transport. Too often the interests of the railways were identified with those of the public, merely because many of the railways were nationalised and, therefore, given a privileged position. He paid a tribute to the retiring general secretary of the I.R.U., Mr. P. Droin, who has taken a post with the French



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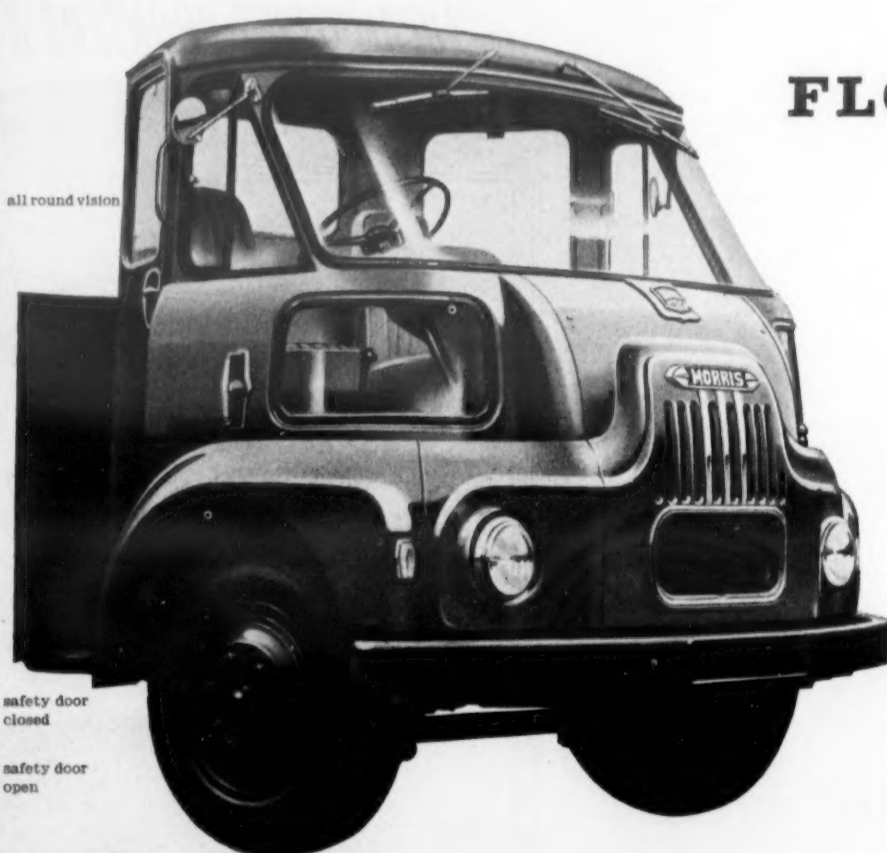
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THE MINISTRY AND THE PUBLIC SERVICE VEHICLE

Present Requirements and Future Considerations

By R. A. LOVELL, C.B.E., A.M.I.Mech.E., M.I.B.C.M., Chief
Mechanical Engineer, Ministry of Transport*

FEW would deny that a code of constructional requirements is necessary, not only to ensure comfort and safety, but also so that manufacturers and operators may know what is expected and be able to design and build accordingly. It is sometimes said that statutory control of design and construction is restrictive and a brake on progress because regulations cannot quickly be altered to permit the adoption of new ideas. Such effects are possible, but British vehicles and the standard of operations and maintenance of British undertakings being as they are in the forefront of progress and as good as any in the world, do not seem to have suffered in this way. Although certain details are dealt with in the regulations, the basic principle followed in this country is to prescribe the result to be achieved, not stipulating how this should be done but leaving it to the manufacturers.

It is sometimes possible to deal with matters concerning vehicle construction without the necessity of making a Statutory Regulation. From time to time the Ministry of Transport draws the attention of manufacturers to some feature of design or equipment thought to be capable of improvement from the angles of safety or passenger comfort by discussions with the Society of Motor Manufacturers and Traders and with the associations representing operators. Contact of this sort proves fruitful and when followed by the issue of a recommended standard or code of practice by the Society has avoided the introduction of further regulations.

Vehicle Dimensions

Without expressing any opinion on whether present dimensions are unalterable, it is worth remembering why any limitation is necessary at all. It is simply, of course, the optimum size of vehicle that will take its place in the traffic without interfering more than is unavoidable with its own free movement and the movement of others. It is often pointed out that other countries allow longer and wider vehicles and that, therefore, the same should be permitted in the United Kingdom. The following table of motor vehicles per mile of road, which is taken from the Statistical Year Book, 1958, issued by the United Nations, as regards vehicles, and from information provided by the International Road Federation as regards roads, does show at least one difference between the traffic conditions prevailing here and abroad:

Country	Motor Vehicles per Mile of Road
Great Britain	30
Federal Republic of Germany	22
The Netherlands	22
U.S.A.	20
Belgium	18
Sweden	16
Switzerland	14
France	12

These figures are only approximate, because the exact definition of what constitutes a road is not the same in all countries, but they are near enough to show how much more crowded are the roads in Great Britain than elsewhere. Account must be taken of conditions as they exist and there are still some main roads in this country no wider than 18 ft., and a few as narrow as 16 ft. Of course, not all roads are congested to the same extent. In fact it was reported by the Road Research Laboratory to the Highway Needs Conference in 1957 that 25 per cent of the traffic of the country is carried by 1 per cent of the roads. Unfortunately it is on this 1 per cent that most public service vehicles operate. Another interesting and possibly alarming fact is that whereas the annual increase in the flow of vehicles averaged 7 per cent between 1951 and 1955 and 8 per cent from 1955 to 1959, the year 1958-59 shows an increase of 12 per cent.

Share of Road Space

If this process continues, it is pertinent to ask how larger vehicles can be accommodated and whether if longer vehicles were permitted would the extra seats be occupied for the greater part of the time, or would the vehicles be running with many of them empty. There are only some 75,000 public service vehicles out of a total of about eight million motor vehicles it is true, but by the very nature of their operation they must frequent the more popular routes. These considerations do not have equal force in respect of both express services and stage services, and a good case can be argued for differential treatment. This could bring difficulties to both operators and manufacturers, however: to the former in loss of flexibility in the interchange of vehicles between services and to the latter in the loss of standardisation and resulting increased production costs.

Sometimes changes in regulations made in response to a particular claim for a specified purpose have unexpected results. Such a case occurred soon after 8-ft. overall width was made possible for all vehicles irrespective of routes. A few vehicles were actually produced with five seats abreast, each having the minimum of 16-in. seat width for each passenger, and the central gangway was 12-in. dimensions which the claimants for an increase in width said they desired to exceed but were prevented from doing so by the restriction to 7 ft. 6 in. This arrangement has not been followed to any extent but there have recently been signs that such a way of making use of the additional 6 in. is still tempting to some operators.

Where changes in regulations are sought, some time is bound to elapse before a decision can be reached because of the necessary consultation with all interested organisations and the legal processes that are involved. Amendments must be considered in their general application and not merely to meet the needs of particular cases. Changes claimed to be in the interests of progress and development are not always as necessary or urgent as the persuasive arguments put forward endeavour to prove. Such was the case a few years ago when what was termed the "half-decked" vehicle appeared, and disappeared almost as quickly as soon as the law was changed to suit this design.

There is an impression in some quarters that because the law permits a Certificate of Fitness to have a maximum period of seven years, this period should in all cases be granted. It should be remembered, however, that a certifying officer must have regard to a number of factors, which include the condition of the vehicle at the time he examines it, his knowledge based on experience of the type of vehicle as regards the likelihood of mechanical faults occurring after a certain mileage, the conditions of operation of the undertaking to which it belongs and the operator's maintenance system, and he will always have in mind the possibility of the vehicle being sold and passing into the hands of an operator whose standards may not be of the highest. Great is the number of owners of public service vehicles and great are the differences between them. There is no provision for re-certification on change of ownership.

Type Approval Little Used

There is in the 1930 Road Traffic Act provision for the type approval of a vehicle, whereby on payment of a fee one vehicle may be examined and approved and other vehicles may be granted a Certificate of Conformity to Type on the production of a declaration that they are the same in design, construction and equipment as the vehicle examined and approved. The main reason for type approval falling into disuse since the early days of certification in 1931 doubtless lies in the requirement in the 1930 Act that each and every vehicle must be examined by a certifying officer to check that it does in fact conform to the original type, and in the necessity to notify the Minister of changes from the original and to have these changes approved. The procedure of submitting fresh specifications and drawings destroys much of the attraction a type approval system could otherwise have. If modifications not affecting strength or the explicit provisions of the Conditions of Fitness Regulations were made permissible without need for further Ministerial approval, operators and manufacturers might well find some advantage when orders for a number of similar type are on hand.

A large number of the accidents in which buses and coaches are involved occurs to passengers when boarding or alighting. Thus in 1958 of 13,286 passengers injured, 5,480 or 41 per cent were due to boarding or alighting without due care. When allowance is made for the numbers of this type of accident where no other vehicle is involved, the accident rate for public service vehicles is nearly the same as that for cars and goods vehicles. No conclusions are drawn from these comparisons, but they are worth noting as a reminder of the responsibility resting upon everyone to leave nothing undone that can reduce the number of accidents. This question of boarding and alighting accidents is a difficult one to solve. A great deal has been done by the industry itself in the provision of doors where appropriate and shallower entrance steps, but accidents still occur too frequently. One reason perhaps is the increasing proportion of aged people in the population, and special vigilance by platform staffs is always necessary.

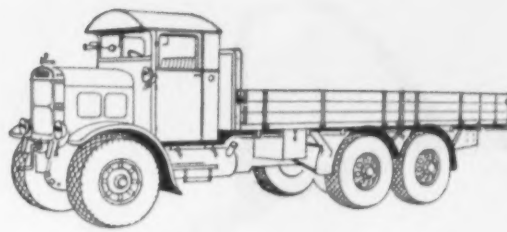
Public Opinion

Criticisms and complaints by the public are not unknown, and these are not always confined to late running or increases in fares. The vehicle itself is sometimes the object of attention. Two matters of topical interest are exhaust smoke and noise and there is a demand that "something should be done." Strong views are often heard about the effects of exhaust smoke in particular, and it is difficult to convince critics that the diesel engine is the wrong animal to chase when hunting for a scapegoat on which to pin responsibility for atmospheric pollution. So far no promising line of investigation for diesel exhaust gases has emerged, but work is continuing. Attention is now being given to the development of a reliable smoke meter which can be operated at a distance from the vehicle, but there are many difficulties to overcome. If one is developed it will provide a means of enforcement of the law in cases of misuse of extra fuel devices for accelerating, or neglect or proper maintenance.

There is also the question of noise. Vehicle noise is only one element in the cacophony of sound from which the modern generation suffers and public service vehicles are probably among the least offensive. In the past few months a comprehensive series of tests has been carried out, in which the level of noise emitted by a complete range of vehicles, from the smallest mopeds to the largest goods vehicles, has been measured, with particular attention to exhausts; the noise difference between comparable vehicles of different makes is remarkable. The problem is firstly one for manufacturers and secondly users, and it is certain that more attention will have to be paid to it in the near future.

International Operations

There was a time not so long ago when Great Britain framed its laws and developed its customs irrespective of any effects these might have abroad. Likewise, we in this country took little heed of what others were doing. The situation is very different today. The vehicles registered in one country and built in accordance with the legal requirements as to construction and operation in force in that country, are travelling in increasing numbers through territories where different laws prevail. The necessity for British manufacturers to seek ever wider opportunities in foreign markets means that they must know what regulations exist so that they may produce and offer for sale vehicles which conform to those regulations. The future pattern of regulations governing construction and use must, therefore, take account of international as well as domestic considerations. Whether we like it or not, we must come to terms with decisions taken by other countries, and it is very much in the interests of manufacturers and operators that this country should take its part in discussions and use its influence towards practical, realistic and uniform results.



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* Abstract of a paper presented to the Scarborough conference of the Public Transport Association on May 18.



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ROAD VEHICLE INDUSTRY

A.E.C. in the Netherlands

CONCLUSION of arrangements with N.V. Auto-Industrie Verheul, Waddinxveen, which company is to undertake the sales and service of A.E.C. vehicles in the Netherlands from October 1 next, was the purpose of a recent visit to that country by Sir William Black and Mr. J. D. Slater, respectively chairman and commercial director, A.E.C., Limited. Already a noted coachbuilder and producer of integral passenger vehicles, Verheul is extending its service organisation and premises and A.E.C. is to co-operate with the Dutch company in the production of a new range of goods and passenger vehicles incorporating A.E.C. running units designed to meet the requirements of Continental operators.

Brockhouse Distributor Appointed

FROM April 1, Barking Garage and Engineering Co., Limited, 83 Longbridge Road, Barking, has been appointed Brockhouse trailer distributor for east London and the counties of Essex and Hertfordshire. Facilities offered by the Barking company include modification and shortening of Thames Trader chassis and the fitting of Brockhouse automatic and S.A.E. fifth-wheel couplings.

Power Steering for Albions

FIVE ranges of goods vehicles produced by Albion Motors, Limited, will in future be available with power steering equipment as an optional extra. They are the Chieftain CH3A, Clydesdale CD21, Reiver RE25, Reiver RE27, and Caledonian 24C1 ranges. Marles 661 type power steering gear with a Hobourn-Eaton pump on the engine will be available on Chieftain chassis, while Marles 861 type gear with Hobourn-Eaton pump will be fitted to the other four ranges.

Ford Service at Ashton

COMPLETION of its sales and service facilities at Manchester Road, Ashton-under-Lyne, and appointment of this branch of its business as a Ford main dealer is announced by H. and J. Quick, Limited, Manchester. The new premises incorporates car and commercial vehicle showrooms, a filling station, service bays big enough to take commercial vehicles, extensive stores and workshops with accommodation for 40 vehicles. The premises, which have cost £100,000, have been equipped with every type of modern time- and labour-saving service aid.

And in the City and East London

CELEBRATION of the first anniversary of its appointment as Ford main dealer for the City and East London, which coincided with the reopening of new showrooms after extensive rebuilding in Commercial Road, London, E.1, was marked by Zenith Motors, Limited, with a number of special activities last week. These included a show of Ford commercial vehicles, when special bodies—some produced by the coachbuilding subsidiary of Zenith Motors—were displayed and the company's workshops were open to public inspection.

tion, a cocktail party to mark the opening of the new showrooms and a lorry driving competition. The company now has extensive premises in Commercial Road and Batty Street to cope with sales, service and repair of Ford cars and commercial vehicles; Zenith Coach Builders, Limited, specialises in the production of custom-built bodies, which are notable for exceptionally high standards of finish, for a variety of purposes. Construction is generally of hardwood framing and faced plywood panelling.

Lomount Vehicles and Engineering

RENAMED Lomount, the companies previously known as the Rotinoff Group, having undergone complete reconstruction since the death of the late chairman in May, 1959, have now opened new offices at Sackville House, 40 Piccadilly, London, W.1. The companies are Lomount Construction, Limited, engaged in general civil engineering works, and Lomount Vehicles and Engineering, Limited, which, in its modern works at Colnbrook, undertakes general engineering work and continues the production of heavy specialised vehicles.

Decorative Plastics Sheet

PRODUCTION of decorative polyester-glass laminates available in flexible as well as rigid form is announced by Lancashire Fibre Glass Mouldings, Limited. Marketed under the trade name Formi-Stika, the material comprises printed cloths backed by glass fibre and impregnated with a B.R.P. Cellobond polyester resin. They are available in a wide variety of designs and combine a decorative effect with the inherent durability of plastics sheet, very suitable for the interior panelling of transport vehicles as well as buildings. Formi-Stika is now being supplied in sheets 6 ft. by 3 ft. but will shortly be available in continuous sheet, while unusual shapes can be moulded to meet special needs.

Merryweather Radio-Salvage Tender

AN interesting wireless and salvage tender recently delivered to the Kingston upon Hull fire brigade by Merryweather and Sons, Limited, embodies a number of interesting features. It is a Marquis appliance based on the now familiar Merryweather-A.E.C. 120-b.h.p. diesel-engined chassis. The front compartment provides accommodation and a wireless table for the driver and officer, while the rear compartment carries a comprehensive range of salvage equipment; there is access from inside to lockers holding salvage sheets, ropes, sawdust, loud hailer, brushes, compressed air cylinders and so on and from outside the machine, access can be gained to the equipment lockers carrying tins of foam compound, knapsack tanks and foam branch pipes. Other outside lockers hold shovels, handsaws, axes and other tools. The control-unit section carries radio and two field telephone receivers with the necessary cable. Two firebells and a siren are provided and provision is made for carrying a 35-ft. extension ladder.

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INDIA REVISITED

2—Marshalling Yards and Locomotive Works*

By Brigadier C. A. LANGLEY, Chief Inspecting Officer of Railways,
Ministry of Transport

AFTER attending a conference on Indian railway signalling developments, I was present at the opening ceremony of the enlarged meeting of the Permanent Commission of the International Railway Congress Association, held in the Vigyan Bhavan, a very fine modern building especially designed and equipped for the holding of international conferences. The meeting was opened by Mr. Jagjivan Ram, Minister of Railways, in the presence of M. de Vos, president of the I.R.C.A., the delegates and a large number of Indian railway officers. Afterwards the delegates were presented to the Minister and met Mr. Mathur, chairman, and members of the Indian Railway Board, some of the general managers, and many other railway officers. The British delegates were Mr. K. W. C. Grand, member, British Transport Commission, Mr. S. B. Warder, chief electrical engineer, B.R. Central Staff, B.T.C., and myself. Under the presidency of Mr. A. Brouckaert, of the S.N.C.B., we discussed the question "Problems met in the design of multi-current rolling stock. Existing types; experimental results; future developments." Mr. J. J. Jonker, of the Netherlands Railways, was the reporter for the English-speaking countries and also the special reporter, and Mr. M. K. Von Meyenburg, of the Swiss Federal Railways, was the reporter for the French-speaking countries. The discussions were continued on Tuesday, when the examination of the summary was concluded. Later that day, Mr. Warder gave a lecture on the British Railways high-voltage electrified system.

Mughalsarai Marshalling Yard

In the course of a post-meeting tour the delegates spent a morning inspecting Mughalsarai Yard, the largest in India. It is at the focal point for the broad-gauge railways of the Gangetic plain, where the Main and Grand Cord lines of the Eastern Railway from Calcutta join the Northern Railway lines to Allahabad and Lucknow. The up traffic from the east is main coal for distribution to districts on the Allahabad and Lucknow lines. Down traffic is largely made up of rakes of empties returning to the collieries and exports for the port of Calcutta. Originally designed for a capacity of only 1,400 wagons per day each way, the yard is now handling nearly double this traffic with hardly any additional facilities. The efficient operation of the up yard is the key to the work. It comprises 14 reception, 35 sorting and 12 departure lines. Trains of 70 loaded wagons are handled over the 9-ft. hump and dispatched to the sorting sidings through points mechanically operated from a 40-lever frame, the lever man receiving advice by code from the controller alongside the hump. The present average throughput is 2,500 wagons per day, but as many as 3,200 wagons have been handled in 24 hours. On the down side conditions are easier and an average of only 1,400 of the 2,500 wagons need be put through the sorting sidings each day.

A major modernisation scheme is now in progress and the up yard is being remodelled with a new hump and electro-pneumatic retarders. The eventual average daily capacity will be 4,000 wagons each way. The down yard, however, is not being altered to any appreciable extent, because most of the anticipated increase in traffic will be from coal and thus most of the down trains will be empties which can go direct to the collieries. Flyovers are being built at each end of the yard to increase the overall throughput of trains, and the whole area, extending for over four miles between the outer home signals, will be equipped with colour light signals. The delegates watched a train being put over the up hump; chief point of interest was the speed with which so many wagons were handled in a simple mechanically worked yard.

Chittaranjan Locomotive Works

The highlight of the tour was the visit to the Chittaranjan Locomotive Works. The construction of this modern factory with British technical aid and its ancillary township began in March, 1948, and in less than two years production started. Output was naturally slow at first, but it has risen steadily from seven locomotives in the year 1950-51 to 165 in the year 1958-59, and is anticipated that during the year ended March, 1960, 175 locomotives would have been built. Production has been concentrated primarily on the standard WG class broad-gauge heavy goods engine with 2-8-2 wheel arrangement. This powerful engine has a nominal tractive effort of 39,000 lb. at 85 per cent of the designed boiler pressure of 210 lb. per sq. in. Its total weight with 18 tons of coal and 5,000 gal. of water in the eight-wheeled tender is 177 tons. A few WT 2-8-4 tank engines are also under construction and orders have been received for the manufacture of 36 WP Pacific type passenger engines and a number of spare boilers.

We were very much impressed by the excellent layout, the modern machine tools and other equipment and the high inspection standards which are maintained, and not least by the enthusiasm and esprit de corps of the many officers with whom we came in contact. I was particularly interested in the welding of a locomotive steel bar frame and of a steel boiler which were in progress. Having seen the welders at work we visited the X-ray room where modern equipment is used to test the welds. The photographs demonstrated the remarkably fine results which are now being achieved. Special attention is paid to the training of welders, who undergo a two-year course before they are allowed to handle this high-class work; thereafter they receive refresher courses and tests every six months. We watched a WG locomotive being wheeled and then drove to the technical school where 120 apprentices and 20 embryo supervisors are trained. The apprentices' course lasts for four years and the supervisors' for five, half of which is spent in the workshops. The apprentices live in hostels and work in their well-equipped shops.

Township

The name Chittaranjan stands for much more than a railway workshop. It includes the modern, well-planned township of more than 5,000 quarters housing a population of 40,000 with all the necessary amenities for a comfortable civic life. The town has been laid out in separate colonies of self-contained units, each with shopping centre,

maternity clinic, schools, playground, dispensary, park, social amenity centre, and recreation institute. These amenities are comparable with the best European standards and each quarter is provided with electricity, filtered water supply and water-borne sanitation. In addition there are central institutes and a fine club, a well-equipped hospital with 70 beds and an excellent sports ground. The township has cost almost as much to construct as the workshops, namely £5 million against £6 million for the latter.

The objective of the organisation is to obtain self-sufficiency in the supply of locomotives, and there is no doubt that the work turned out in the shops bears comparison with the best in the world. The scope of production is being further expanded in order to increase self-sufficiency. Work on a steel foundry with an initial capacity of 7,000 tons per year is expected to commence shortly and a galvanising plant is to be set up for galvanising the steel masts needed for the new railway electrification projects, thus conserving foreign exchange. Although up to now work has been concentrated on the construction of steam locomotives, the manufacture of electric locomotives will shortly be undertaken. An order has been placed for 10 3,000-volt d.c. locomotives and negotiations are under way for obtaining technical collaboration in the manufacture of 42 high-voltage a.c. locomotives. The town is also to be extended and plans are in hand to build another 1,000 quarters.

Railway Electrification

Some of the delegates, including Mr. Grand and myself, went by special train from Calcutta to Dangoaposi on the southern fringe of Bihar to witness a trial run of the first high-voltage a.c. locomotive in India. In order to cope with the heavy increase in traffic resulting from the construction of new steel works and the development of industry in Bihar and West Bengal, the Railway Board decided to electrify some of its main trunk routes and heavily worked branch lines in that area. The 25-kV a.c. single-phase 50-cycle system, as developed by the S.N.C.F. in France, was considered the best and the electrification of over 800 miles has been planned for completion during the second five-year plan. This is a departure from the original electrification policy, for the first phase of the Calcutta electrification project was the installation of the 3,000-volt d.c. system which is now in operation on 67 route miles from Howrah to Burdwan on the Eastern Railway main line and on the 22-mile branch from Sheoraphuli to Tarakeswar. The clearances provided on this system are, however, sufficient to allow for conversion to 25-kV a.c. in due course, and on the Bandel-Burdwan section the insulators carrying the overhead equipment are in fact designed for use with the high-voltage system.

In view of the magnitude of the new electrification project an independent organisation under a general manager and directly responsible to the Railway Board was set up to take charge of this work. Having selected the comparatively novel a.c. system the Railway Board considered it desirable to get help from an outside organisation with sound experience of this method of electric traction. Accordingly the S.N.C.F. of France were asked to co-operate and they have been taken on as technical associates to give the Indian railwaymen the technical "know-how" and to supervise the initial installations. A number of French engineers and other staff is at present seconded to the Indian Railways while some of the Indian railway officers and staff have been to France to study the French system.

New A.C. Electric Locomotive

The new 2,800-h.p. Bo-Bo locomotive weighs 75 tons with an 18½-ton axle load and it produces a tractive effort of 32,480 lb. It is designed to handle passenger trains of 680 tons at 70 m.p.h. on the level and at 45 m.p.h. up a 1 in 100 gradient. It can haul a freight train of 3,600 tons on the level at 40 m.p.h., or one of 2,300 tons at 30 m.p.h. up a 1 in 200 gradient. It has been built by a consortium of European firms, including French, Belgium, Swiss and German, but no British. Altogether 100 locomotives have been ordered from the consortium and orders for a further 10 have been given to Japan. As mentioned earlier, negotiations are in hand for building other a.c. locomotives at Chittaranjan.

The 46-mile Raj-Kharsawan to Dangoaposi branch, on which the locomotive was operated for the first time by Mr. P. N. Murti, engineer in chief of the electrification project, falls almost continuously from Dangoaposi, 1,531 ft. above sea level, to the main line; consequently mineral trains of 3,400 tons can be handled down it. The iron ore is carried in large side discharge hopper bogie wagons of 60 tons capacity and 30 tons tare weight giving axle loads of 22½ tons. At the present time one passenger and 12 freight trains run daily in each direction, but this traffic is expected to be doubled when the steel works are developed to full capacity. Two 1,800-h.p. diesel locomotives haul the freight trains at present, but they will be replaced by single electric locomotives as soon as work on the line is completed.

The overhead equipment for this branch line and for another section of the electrified system is being provided and erected by British Insulated Callenders Cables, Limited.

Multiple-Unit Stock

I spent an afternoon with Mr. S. K. Gopinath, the Chief Electrical Engineer, Eastern Railway, inspecting the Howrah car shed and examining some of the new 3,000-volt d.c. electric stock. The car shed is very similar in layout to the Kurla car shed in the Bombay area which I saw brought into use 30 years ago. It was already well filled with the multiple-unit stock and I had a quick look at the units supplied by the three manufacturers, British, Swiss and Japanese, but to the same general design and specification. Each three-coach set comprises a motor coach in the centre with a driving trailer at each end. It provides accommodation for 290 seated and 290 standing passengers, but on exceptional occasions it can carry an additional load of 290 standing passengers, giving a "dense crush" load of 870 passengers; well up to London tube standards!

(To be continued)

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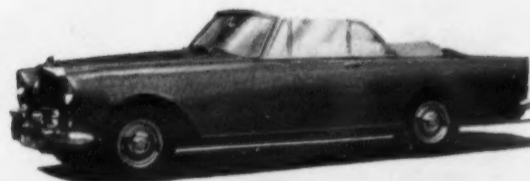
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Uganda Rail Link

A sum of £550,000 has been approved by the Uganda Central Legislative Assembly for a new rail link between Soroti and Lira. The Government will raise £440,000, and the railway administration the other £110,000.

Road Casualties in March

In March, 493 people died as a result of accidents on the roads of Great Britain. This was 78 more than in March, 1959, although casualties as a whole were 117 fewer. Motor traffic as estimated by the Road Research Laboratory was 7 per cent heavier than in March last year.

Gantry Crane in Rail Yard

British Railways has installed a new Cowans Sheldon 40-ton electric gantry crane at Brunswick Goods Station, Liverpool. This replaces a steam crane which by modern standards was slow in operation. The new crane, which spans three railway tracks, has a longitudinal travel of 500 ft. It will be used mainly for handling loads of steel girders, ships' platings, etc., and undercarriages of railway coaches, much of it for export.

One-Way Traffic Spot for Southampton

Traffic congestion at Six Dials Junction, the busiest intersection in Southampton, will be reduced by the introduction of a circulatory one-way traffic system in place of the existing roundabout. The Minister of Transport has made a grant of £282,786 towards the cost, estimated at £377,048, of the necessary roadworks. It has been decided to improve the existing roads and use them in a one-way traffic system. A new Docks Road will be built to supersede St. Mary's Street as a through traffic route.

Inducements to Large Rail Users

Measures to improve freight transits on heavy traffic routes of New Zealand Railways and to reduce the cost were outlined recently. A reduction of rates is proposed for large consignments of miscellaneous goods wherever sufficient regular traffic is available and the consignors are prepared to accept certain additional responsibilities. They would guarantee satisfactory wagon loading and tonnage of goods per week between specified stations, load and unload the goods, and accept responsibility for loss and damage.

Marshalling Yard for Black Country

Work has started on a £1½ million scheme to remodel completely the London Midland Region marshalling yard at Bescot, near Wednesbury, and this will take about two years to complete. At present, the area between Birmingham, Wolverhampton and Walsall is served by a number of marshalling yards of varying size including those at Bushbury, Stechford, Wichnor and Birmingham Exchange, all of which will cease to be used for marshalling when the new Bescot yard commences operation. A new freight terminal is to be built at Watford, to deal with an area bounded by Harrow, Great Missenden and Harpenden.

Harbour Charges Scheme Inquiry

The public inquiry by the Transport Tribunal into the B.T.C. harbour charges schemes will now be held at the Niblett Hall, 3 (North) King's Bench Walk, Temple, London, E.C.4, on May 24.

Vauxhall Bridgehead Improvement

Improvements costing £140,000 are to be carried out to the crossroads at the northern end of Vauxhall Bridge. These roads are used by over 35,000 vehicles daily, and the junction is badly congested at peak hours. Each leg of the crossroads will have three approach traffic lanes and central guide islands, giving a width of about 30 ft. through the signals for traffic in each direction. A new link road will be made through Bessborough Gardens, in place of the present diagonal road, to simplify traffic light working.

Railway Result in New Zealand

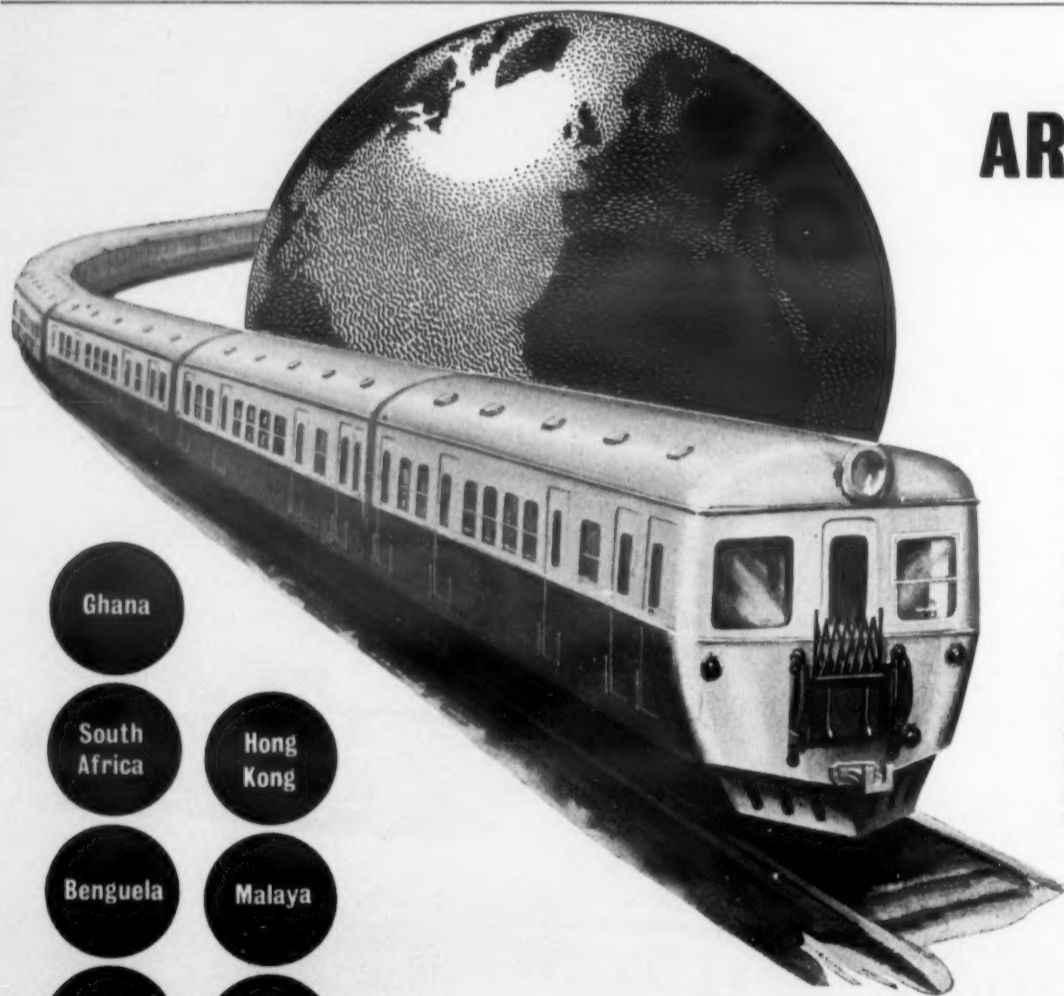
What is described as a further improvement in New Zealand railway finances was reported by the Minister of Railways, Mr. Michael Moohan. During the financial year that ended on March 31, railway revenue from all sources rose to a record of £34,936,914 without increases in charges. This was an increase of £564,050 compared with the previous year's earnings. Expenditure rose by only £362,742 to a total of £35,500,047, so that the net loss was reduced from £764,441 last year to £563,133 this year. Salary and wage increases amounted to approximately £800,000.

Punctuality on Rail

The North Eastern Region of British Railways has won three out of the four inter-regional punctuality competitions for 1959, which were instituted in 1956. By reducing the number of minutes lost per 100 train miles run by 15.7 per cent for passenger trains and 3.4 per cent for express freight trains, over 1958, the North Eastern Region took first place in both these competitions. The North Eastern Region was also placed first in the absolute passenger competition because 79.64 per cent of all passenger trains arriving in the region reached their destination on time.

Robotugs at Wolverhampton Depot

An order for five Conveyancer E.M.I. Robotug driverless tractors has been placed by the Western Region for use at its goods depot at Wolverhampton Herbert Street. They will be principally employed on the transfer of goods between rail wagons and road vehicles. Approximately 100 wagons carrying over 160 tons of goods are received daily at this depot. The electronically guided tractor, following a single energised wire laid in the floor, will haul a string of loaded trailers on a pre-set course. It can be directed to stop at any of 12 pre-determined points and return to its forwarding point with the empty trailers for reloading. In addition to safety devices which immediately stop the truck if the route is obstructed, there is incorporated the block control system, referred to in our May 7 issue, which, if a section ahead is occupied, halts the train of trolleys until it is clear. One clear section is maintained between tractor units.



AROUND THE WORLD....

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COMMERCIAL AVIATION

Transitional Licences

B.E.A. COMETS WORK HARD

ARRANGEMENTS are being made for issuing (should the Civil Aviation (Licensing) Bill become law) the transitional licences for newly-controlled "separate fare" operations in the summer season only of 1961. All flights involving the carriage of passengers at separate fares will require an air service licence. The regulations to be made will provide that a fare is paid if any benefit is given wholly or partly for or in connection with the passenger being carried. As a result of this definition of separate fares, licences will be required by airlines for some passenger operations for which hitherto approval has not been needed. These operations are of two kinds: the first where aircraft are chartered to members of a recognised group (described below as closed group charters) for either a single flight or a series of flights and the members of the group each pay a separate fare. The second is where a number of persons come together to charter aircraft and share the cost of the charter among themselves by private arrangement (described below as spontaneous group charters). Neither of these at present requires approval. The Air Transport Advisory Council has been asked by the Minister to examine and advise on applications for these "separate fare" operations, which will be controlled if the Bill becomes law and are planned to take place next year between March 31 and October 31, in addition to the inclusive tour and circular tour operations which are already controlled. It is assumed that the Air Transport Licensing Board will be able to examine all applications for operations after October 31, 1961. All operators are advised to make the necessary applications to the Minister through the Air Transport Advisory Council as early as possible. The Council has agreed to advise the Minister in time for him to make his decisions known by the end of November, 1960, on applications made not later than June 23.

Two Types of Licence

The transitional licences authorised in respect of these separate fare operations will be of two kinds. The X licence will be a transitional limited general licence to an operator to carry certain very short series of bona fide closed groups or spontaneous groups up to October 31, 1961, subject to the following conditions: (i) closed groups must have a genuine independent existence for purposes other than that of obtaining cheap travel, and membership of the group must be limited in a realistic way; fares will not be controlled. (ii) the members of a spontaneous group need have no other bond than the purpose of travelling together, but the total fares which they pay must not exceed the total charge by the aircraft operators for the charter, and the group must not be assembled by a person engaged in the business of organising holiday tours. In the case of both (i) and (ii) the following additional conditions will apply: (a) there must not (except within the group) be advertisement or solicitation for the proposed operations, which must not be open, or advertised as open, to the general public; (b) the group in question must not have chartered and must undertake not to charter more than three return flights for its members, irrespective of destination, during the period of the licence; (c) the Ministry and the Board must at monthly intervals be informed what flights for what groups have been operated under the licence. In addition the Minister might attach other conditions to any licence of this type on the advice of the Council, but not as to the fares to be charged.

The Y licence will be a licence to an operator to operate up to October 31, 1961, a particular holiday service (i.e. an inclusive tour or circular tour as hitherto understood or one of the separate fare operations newly brought under control by the Bill and not of the type authorised by an X licence) subject to various conditions.

Out by Air—Back by Sea

Following Home Office and French Government approval, Eagle Steamers and Channel Air Bridge have announced a joint service for no-passport day trips from Southend to Calais giving up to seven hours ashore in France. The fare for the new air-sea service is £3 12s. return. Outward flights from Southend will be at 8.10 a.m., 9.50 a.m. and 11.30 a.m. The *Royal Daffodil* will leave Calais at 5 p.m. Bus services will be available from Marck Airport, Calais, to the town centre at 1s. 6d. and to Dunkirk at 7s. 6d. return.

B.E.A. Builds Up Comet Hours

The new de Havilland Comet 4B jet air liners of British European Airways have earned some £500,000 since they were introduced into service on April 1. In the six weeks period since the start of the jet services the Comets have flown more than 1,000 hours and 15,000,000 passenger miles as well as mail and freight. These results have been achieved by intensive operation with a comparatively small fleet—the sixth of the seven Comet 4B jets ordered by B.E.A. was delivered on May 10. By mid-summer the aircraft will be averaging an 8-hour working day in a seven-day week. A typical 30-hour cycle of operations for a Comet 4B is as follows.

	G.M.T.		G.M.T.
Friday—			
Take-off London	22.59 hr.	Land Moscow	02.30 hr.
Saturday—			
Take-off Moscow	04.30 hr.	London	08.20 hr.
" London	11.10 hr.	Rome	13.20 hr.
" Rome	14.05 hr.	Athens	15.50 hr.
" Athens	16.40 hr.	Tel Aviv	18.30 hr.
" Tel Aviv	20.10 hr.	Nicosia	21.00 hr.
" Nicosia	21.45 hr.	Athens	23.20 hr.
Sunday—			
Take-off Athens	00.05 hr.	Munich	02.35 hr.
" Munich	03.20 hr.	London	05.00 hr.

Air-India Transatlantic Service

On Saturday, May 14, Air-India International put into service for the first time between London and New York the Rolls-Royce Boeing 707. During this summer Air-India will provide three services a week in each direction across the Atlantic, leaving London at midday on Fridays, Saturdays, and Sundays. In London before departure the chairman of Air-India, Mr. J. R. D. Tata, announced that flight times would be 7 hr. 20 min. westbound, and 6 hr. 20 min. eastbound. Mr. Tata added: "Until we are joined by our Commonwealth partners, B.O.A.C., next month, our schedules will be faster than any other operator between London and New York." The Boeing configuration would be for 32 first class and 96 tourist class passengers. "We believe that these proportions are about right for transatlantic traffic. If we require greater numbers of first-class seats on our eastern routes it is an easy matter to change the configuration to suit our needs."

P.T.A. CONFERENCE



A. F. R. Carling

Mr. A. F. R. CARLING, M.A., M.Inst.T.

• • • • •

Presiding this week over the annual conference of the Public Transport Association at Scarborough, the chairman of the association, Mr. Allan Frederick Reynolds Carling, a member of the executive staff of the British Electric Traction Co., Limited, will, in 1961, have served the bus industry for 30 years. Educated at Aldenham School and Peterhouse, Cambridge, he joined the staff of the late Mr. A. Douglas Mackenzie, director and traffic manager of Southdown Motor Services, Limited, in 1931, when his duties related particularly to road service licensing. He was appointed assistant traffic manager in 1938 and also acted as manager of the company's Portsmouth area during the war years 1939-43. In the latter year Mr. Carling was made assistant to the managing director, the late Mr. A. E. Cannon, and became general manager in 1947 upon the latter's retirement from executive work. He remained in that post until November, 1954, when he was transferred to B.E.T. headquarters. He is at present managing director of East Yorkshire Motor Services, Limited, Ribbles Motor Services, Limited, and A. Timpson and Sons, Limited, and chairman of London Coastal Coaches, Limited, while other companies of which he is a director include African Transport, B.E.T. Omnibus Services, and Rhodesia United Transport. He is a member of the National Council for the Omnibus Industry and chairman of the Conference of Omnibus Companies. One of the initial vice-chairmen of the Southern Section of the Institute of Transport when it was established in 1945, he served as its chairman in 1948-49. A member of council and a vice-president of the Institute, Mr. Carling was awarded its Road Passenger Transport Medal in 1951 for his paper "Management and the Size of the Operating Unit."

IN PARLIAMENT

Users Committees and Modernisation

ADVICE ON LONDON TRAFFIC

LEGISLATION in order that the Minister of Transport could exercise wider powers in relation to area transport users' consultative committees was suggested by Mr. J. A. LEAVEY, The Joint Parliamentary Secretary, Mr. JOHN HAY, said that they did not for the present propose to introduce legislation to alter the powers of these committees. Mr. Leavey said: "As a number of recommendations are being made for the closure of stations, while the whole question of the railway organisation is now in the melting-pot, would it not be desirable for the Minister to make a general recommendation that those considerations should be held in abeyance until the over-all policy is made clear? Is it not undesirable that there should be these piecemeal closures when, perhaps at a reasonably short-distant time in the future those decisions will require to be reversed in keeping with a national decision?" Mr. Hay: "I rather doubt whether the assumption Mr. Leavey made from the review being carried out by the planning, or advisory, group was justified." It had to be remembered that in the current year £90 million was having to be found in direct subsidy for the B.T.C. We should not lose any opportunities for useful economies, provided they could be properly made.

Commons Wants its Own Bus Stop

Mr. JOHN HAY, the Joint Parliamentary Secretary, Ministry of Transport, promised Mr. B. JANNER that, for the convenience of persons visiting Parliament and of members, he would request the Bus Stopping Places Advisory Committee (which fixes London bus stops) to consider the provision of a stopping place outside St. Stephen's Entrance for buses which pass along Abingdon Street (between Parliament Square and Millbank).

Hull-Barnsley Railway into Road?

Mr. J. M. COULSON asked the Minister of Transport what plans he has for using parts of the disused Hull and Barnsley railway line as a road to improve communications between the West Riding and the city and port of Hull. Mr. E. MARPLES said that preliminary investigations have been made into the possibility of using parts of the disused railway for highway purposes and the results are now being studied.

Road Traffic and Roads Improvement Bill

When the Standing Committee of the House of Commons was considering the Road Traffic and Roads Improvement Bill, the Joint Parliamentary Secretary, Ministry of Transport, Mr. JOHN HAY, explained that the main purpose of the change whereby the Minister was no longer bound to consult the London and Home Counties Traffic Advisory Committee before making any traffic regulations for the London traffic area was to enable the Minister to do what was vitally necessary in London—to move with all possible speed in getting things done. An Opposition amendment sought to set up a London Traffic Area Committee of not more than six members, having experience in local government, police administration, commerce, industry, and the trade unions. This would make possible consultation with outside interests. SIR RICHARD NUGENT, the previous Parliamentary Secretary to the Ministry of Transport, paid warm tribute to the work of the London and Home Counties Traffic Advisory Committee. He agreed that nowadays it was impossible to work through a huge, unwieldy committee, but thought there should be some informal machinery which would be conscious of the general political considerations involved, as new traffic regulations would affect the lives of millions of people.

Mr. Hay said they were seeking to avoid the continuing obligation to consult the advisory committee on every single traffic matter however small. He could not accept the Opposition amendment: it was vital that they should not encumber themselves with any additional machinery which might slow the action they wanted to take. It was not intended to wind up the Advisory Committee or the London Travel Committee. It was the Minister's intention to work with and through the London local authorities and in addition they would use the new London traffic management unit to obtain technical advice from traffic engineers. The Parliamentary Secretary did agree that there was a case for an official group of advisers who could explain to the public what they were doing in their traffic regulations, and how and when they were doing it.

FORTHCOMING EVENTS

May 22.—S.C.T.S. Tour of Wolverhampton and Shropshire, Rly.E.C. Special train, "North Hampshire Downman" with visits to Eastleigh, London Bridge, 9.30 a.m.
O.S. (N.W. and V.) Visit to West Yorkshire Road Car Co., Limited, Harrogate, 2.15 p.m.
May 23-26.—Instruments, Electronics and Automation Exhibition at Olympia.
May 24.—Inst.C.E. W. E. Gelson and G. A. Plank "New Highway Bridges Across the River Tyne in 1940 at Amara and Kut" and B. Farago and W. W. L. Chan, "The Analysis of Steel Decks with Special Reference to the Bridges." Great George Street, S.W.1. 5.30 p.m.
May 25.—R.S.A. Peter G. Masefield, "Problems and Prospects of Air Transport." John Adam Street, W.C.2. 2.30 p.m.
May 25-26.—Inst.P. Summer meeting, Planning for Productivity in the Petroleum Industry, Bournemouth.
May 27.—I.Loco.E. Joint Symposium with A.D.A., "Application of Aluminium to Railway Stock." 1 Birdcage Walk, S.W.1. 5.30 p.m.
May 28.—O.S. (Northern). Annual coach tour to Lake District.
May 28-June 3.—L.R.T.L. Visit to Switzerland.

KEY TO CODE

A.D.A.—Aluminium Development Association; A.F.—Aviation Forum; B.I.R.E.—British Institution of Radio Engineers; D.E.U.A.—Diesel Engineers and Users Association; E.R.S.—Electric Railway Society; H.C.V.C.—Historic Commercial Vehicle Club; Inst.C.E.—Institution of Civil Engineers; I.E.E.—Institution of Electrical Engineers; I.N.A.—Institution of Naval Architects; I.R.S.E.—Institution of Railway Signal Engineers; I.R.T.E.—Institute of Road Transport Engineers; I.T.A.—Industrial Transport Association; I.Loco.E.—Institution of Locomotive Engineers; I.Mar.E.—Institute of Marine Engineers; I.Mech.E.—Institution of Mechanical Engineers; I.Nav.—Institute of Navigation; Inst.H.E.—Institution of Highway Engineers; Inst.P.—Institute of Petroleum; Inst.T.—Institute of Transport; Inst.Traf.A.—Institute of Traffic Administration; L.M.R.L.D.S.—London Midland Region Lecture and Debating Society; L.R.T.L.—Light Railway Transport League; N.T.M.R.C.—Norbury Transport and Model Railway Club; O.S.—Omnibus Society; P.R.D.G.—Peterborough Railway Discussion Group; P.V.O.A.—Passenger Vehicle Operators Association; P.W.I.—Permanent Way Institution; R.Ae.S.—Royal Aeronautical Society; R.C.H.S.—Railway and Canal Historical Society; R.C.T.S.—Railway Correspondence and Travel Society; R.H.A.—Road Haulage Association; R.S.A.—Royal Society of Arts; Rly.C.—Railway Club; Rly.E.C.—Railway Enthusiasts Club; Rly.S.A.—Railway Students Association; S.C.T.S.—Southern Counties Touring Society; S.E.—Society of Engineers; S.L.S.—Stephenson Locomotive Society; S.R.L.D.S.—Southern Region Lecture and Debating Society; S. Wales and Mon. R.D.L.D.S.—South Wales and Mon. Railway and Docks Lecture and Debating Society; T.R.T.A.—Traders Road Transport Association; W.R.L.L.D.S.—Western Region London Lecture and Debating Society; W.W.R.T.S.—West Warwickshire Railway and Travel Society.



The "Margam Abbey"—built for the Port Talbot Pilotage Authority by Richard Ironworks Ltd., in which Cor-Ten was used extensively. Photograph by courtesy of the Port Talbot Pilotage Authority

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DIESEL LOCOMOTIVE MAINTENANCE DEPOT

New Finsbury Park G.N. Line Shed

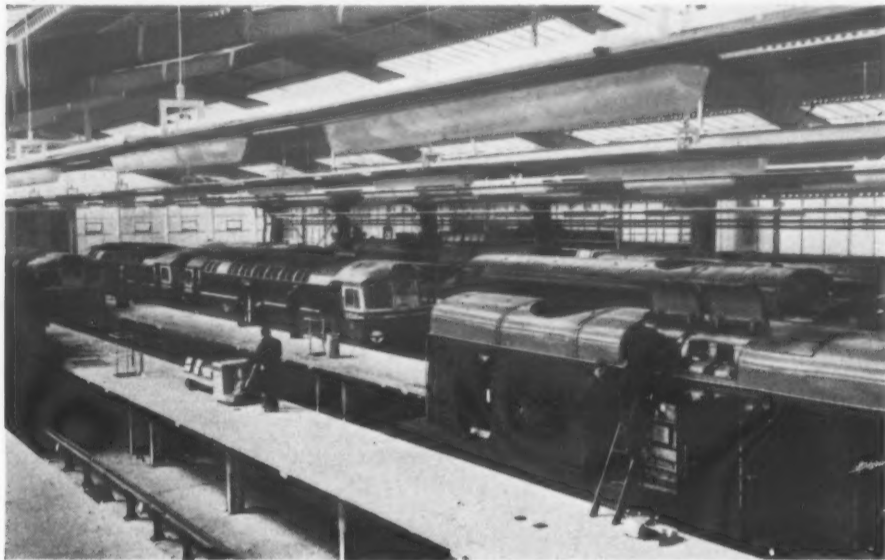
AS already announced in our columns, a new £300,000 depot—the first in this country to be built specially for the maintenance of main-line diesel locomotives—has been brought into use at Finsbury Park by the Eastern Region of British Railways. The site is to the west of the Great Northern Line where the former Clarence Yard goods yard stood. When working to full capacity, it will maintain 152 diesel locomotives and 31 shunters—ranging from 350 h.p. to the 3,300-h.p. Deltic locomotives for services to Leeds, Newcastle and Edinburgh.

The site was specially chosen since it gives easy access to Kings Cross passenger and goods stations,

steel-framed clerestory and flat roof. The outstanding feature is the reinforced concrete chimney, which is 55 ft. high; there is an enlarged lower portion to house part of a future water softening installation. Colt ventilators are installed.

Equipment

Also provided at the depot are modern fuelling and sanding plants, battery-charging equipment, compressed air facilities, lifting hoists and runways, filter-cleaning and injector-testing equipment. The latter is by C.A.V. There is an Intermit filter cleaner; in the same room a Laycock cleaning tank enables grease and dirt to be removed



Interior view of the Finsbury Park diesel maintenance depot showing the working platforms

to Ferme Park marshalling yard, Harringay, and the London area carriage sidings. The new depot will eventually deal solely with periodical examinations and heavy repairs to locomotives, but in the meantime will undertake daily servicing. General servicing facilities, involving the replacement of fuel oil, sand and water, will be undertaken at Kings Cross, Hornsey and Hitchin depots—where most of the locomotives take up their trains.

Structure

The main shed is a steel-framed structure, having a single span of 111 ft. 6 in.; it is 18 ft. 6 in. from rail level to the eaves. The roof covering is double-skinned asbestos cement with glass fibre insulation and continuous glazing. The sides consist of dwarf brick walls with full glazing over the remainder. The whole structure is carried on about 400 piles. The shed contains six tracks—each holding three locomotives—the rails being supported on short tubular columns above the working floor of the pits. This arrangement, in conjunction with permanent working platforms at footplate level—a special feature of the new depot—enables the maintenance work to be carried out with the maximum ease and efficiency.

Heating is by continuous radiant strips, supplied with high temperature water from an oil-fired automatic boiler. The boiler house installation by Brightside comprises a La Mont boiler with Brockhouse oil burner. A second boiler can be installed later if required. The boiler house oil supply pipes are heated by a Rother heat exchanger to lower the viscosity of the oil in cold weather. The fuel consumption is about 35 gal. an hr., a small part of which comprises waste sump oil.

The boiler house is of brick construction and is carried on a reinforced concrete platform. It has a

from dismantled parts. Murex radiator coolant is mixed at the depot in a room above the compressor room. The depot has been designed to cater for an extension to deal with the maintenance of electric locomotives when this becomes necessary.

A two-storey building at the south end of the shed accommodates the workshops, offices, stores and staff amenities. Planned on a 3 ft. 4 in. module, it is a steel-framed structure, clad externally with aluminium-framed curtain walling. The floors are of reinforced concrete and the roof is of light metal decking. The internal partitions are demountable and timber-framed with facing panels of galvanised metal or varnished plywood.

Designers and Builders

The design was carried out under the general direction of Mr. A. K. Terris, chief civil engineer, Eastern Region, Mr. H. H. Powell, architect of the region, being specifically responsible for the design of all buildings other than the actual maintenance depot. The piling was undertaken by Holm Press Piles, Limited, of Barnsley Street, Hull; the steelwork was fabricated by Wright Anderson and Co., Limited, Gateshead, and the general construction work by Wimpey and Co., Limited, of Hammersmith.

A pleasantly clean shed is adding to the ease with which maintenance is carried out on the Great Northern Line locomotives in the London area. Diesel-electric locomotives have been introduced on suburban duties as well as for main-line working and shunting, and now that the teething troubles are ended there has been a remarkable improvement in G.N. punctuality, with over 90 per cent right time arrivals in the peak hours; a reward for this is increased public confidence with considerably increased traffic and receipts.

C.P.-L.M. LINK

Naming Ceremony at Euston

COMMONWEALTH ties were strengthened at Euston on May 12 when Mr. N. R. Crump, president of the Canadian Pacific, named a new 2,000-h.p. diesel-electric locomotive *Empress of Britain* after the famous Canadian Pacific transatlantic passenger liner. It was a happy chance he was able to do this after visiting the launch at Walker of *Empress of Canada*. Mr. David Blee, general manager, London Midland Region, who presided, said that this type of locomotive was

trains in the course of a year. The region, said Mr. Blee, attached the utmost importance to good timekeeping on its services; while complete reconstruction was being carried out for electrification, the additional power which the new locomotives provided would do much to recover time given to the engineers for the purpose.

Mr. Crump, whom Mr. Blee thanked for attending, is the son of a railwayman and is one of the few railway presidents in North America to be a qualified diesel engineer. A pleasing feature of the occasion was the attendance of Lord Nelson, chairman of the English Electric group; the locomotive was built by Vulcan Foundry, Limited, with engines and transmissions from the English Electric



The newly named locomotive at Euston on May 12

now hauling the principal express trains between Euston and Liverpool. It was therefore decided that the locomotives should carry the names of famous vessels based on the great Mersey port.

Over a quarter of a million people are carried in each direction between these two great centres and ports, London and Liverpool, by London Midland

works at Preston. Some 200 of the type have been ordered by British Railways from the builder and mileages run are as much as 4,000 a week. The engine nameplates have been specially designed to include a replica of a ship's wheel and the house flag of the steamship line.

(Another illustration appears on page 15)

Work in progress at Perth Hump Yard

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OPERATIONAL EFFICIENCY IN ROAD PASSENGER TRANSPORT

The Case for Large Double-Deckers

By H. BOTTOMLEY, C.B.E., M.Inst.T., General Manager,
Ribble Motor Services Limited*

I AM proud of our industry. It has made greater contributions towards the stabilisation of the cost of living index than any other comparable form of service to the community and whilst so doing has, in general terms, improved upon the quality of its service. Operating costs per mile are currently somewhat in excess of three times those of prewar, and would have been considerably more had it not been for the determined efforts of the operators to adopt better methods in order to buffer the impact of advancing prices and wages rates over which they had little or no control. Manufacturers, too, have played an important part in technical advancement and improved design of vehicles—not always without insistent promptings of the operators.

Before the war, a driver's basic rate was 1s. 3d. to 1s. 5d. per hour (minimum to maximum—five years) for 48 hr., with time and a quarter for Sunday work, and time and a quarter for overtime after 54 hr., with small penalties for spread-over duties. Today, a driver's basic rate is 4s. 11d. per hour for a 44-hr. week, with time and a quarter for the first two hours of overtime, and time and a half for extra overtime. Time and a half is payable for Sunday work, and an additional 11d. per hour for work on Saturdays after 1 p.m., whilst penalty rates for spread-over and lie-over time have been increased. Fifteen per cent extra on basic rates is payable to one-man operatives in respect of hours worked. There are longer holidays with pay.

The average amount paid for each hour on duty before the war was, including all penalty rates and holiday pay, about 1s. 5d. The corresponding figure today is in the region of 4s. 11d. to 5s. 2d. according to the amount of penalty payment time involved. This represents an increase of about 3s. 5d. to 3s. 8d. per hour or an increase of 237 to 254 per cent. In keeping down his costs, the operator is hardly open to the accusation that he has done so by exploiting labour.

Productivity

A further improvement upon these wages rates would make it absolutely essential that all hours worked are productive of the best results. To the

has disproved the validity of such fears but if it had not, I would still opt for the large-capacity vehicle. If I were faced with the alternative of losing the fares of a few passengers on a large-capacity vehicle or providing a duplicate to a smaller-capacity double-decker, I would still prefer to run the risk of carrying a few people for nothing!

The difference between items of cost of the large and the smaller types of double-decker which can be said to be established are: (a) Initial cost £450 higher in the case of the large double-deckers. Allowing for a 12 years' life means that an extra annual depreciation allowance of £38 has to be provided; (b) fuel consumption of the large double-decker is approximately 10 per cent greater, which means that if the smaller double-decker's average is 11 m.p.g., the larger double-decker will average 10 m.p.g. The difference of 1 m.p.g. adds .39d. per mile to the cost of the larger double-decker. At 40,000 miles per annum, this extra cost totals £63; (c) Road Fund licence fees cost £5 10s. per annum more in the case of the large double-decker. Other differences in costs are the imponderables; for example, cleaning. The difference between the time taken to clean a 27-ft. vehicle and a 30-ft. vehicle does exist, though not to the extent of the one-ninth extra length because there is only one front and one rear to clean in both cases. The real question for the operator is whether he would need to increase the number of his cleaners on account of the increase in the size of the vehicle.

Low Extra Costs

In an attempt to quantify the imponderables, and at the same time to illustrate the differences in operating costs of the small and large type double-deckers at varying annual mileages, I have prepared the accompanying statement, which I consider illustrates the maximum differences in costs between the two types of vehicle, even though the costs themselves may be different, in some respects, from those which individual operators would find applicable to themselves. Here again, however, there is an imponderable factor, though fortunately for illustration purposes, common to both types of vehicle. This factor relates to platform staff wages, the costs

ITEMS OF DIFFERENCE BETWEEN OPERATING COSTS OF 27-FT. AND 30-FT. LONG DOUBLE-DECK BUSES

	5,000	10,000	20,000	30,000	40,000	50,000
	Miles Operated per annum					
	Costs per annum to nearest £					
30-ft. LONG 72-SEAT DOUBLE-DECK BUS						
Fuel at 10 m.p.g.—4.94d. per mile	90	181	362	542	723	904
Tyres—55d. per mile	11	22	46	69	92	115
Lubricants—15d. per mile	3	6	12	19	25	31
Cleaning at 8s. 3d. per day, 6 days per week	125	125	125	125	125	125
Licences	46	46	46	46	46	46
Rolling stock repairs at 2.37d. per mile	49	98	197	296	395	493
Drivers and conductors at 11.5d. per mile	324	479	788	1,097	1,406	1,714
Depreciation 1/12 x £5,650	471	471	471	471	471	471
27-ft. LONG 61-SEAT DOUBLE-DECK BUS						
Fuel at 11 m.p.g.—3.95d. per mile	82	165	329	494	658	823
Tyres—52d. per mile	11	22	44	66	88	109
Lubricants—15d. per mile	3	6	12	19	25	31
Cleaning at 7s. 3d. per day, 6 days per week	113	113	113	113	113	113
Licences	40	40	40	40	40	40
Rolling stock repairs at 2.25d. per mile	47	94	187	281	375	469
Drivers and conductors at 11.5d. per mile	296	440	726	1,013	1,299	1,585
Depreciation 1/12 x £5,200	433	433	433	433	433	433
Increased annual cost of operating a 30-ft. long bus	66	77	100	122	144	167
Increase in cost per mile	3.18d.	1.84d.	1.20d.	.97d.	.84d.	.80d.

Other cost items common to both types of vehicle are omitted.

operator, productivity means vehicle miles, and maximum productivity means vehicle miles run by vehicles of the maximum seating capacity. Platform staff hours paid for when the bus wheels are not turning are non-productive, whether such hours are in respect of lie-over time, spread-over time or make-up time. Similarly, hours paid for when the wheels turn at the average rate of 10 m.p.h. are under-productive if they could be turning at an average rate of 12 m.p.h. There are, then, two factors in relation to productivity—(a) vehicle miles run per hour worked, (b) the quality of the vehicle miles in terms of seating capacity.

Basically, it is economically unsound to operate single-deck buses over routes suitable for double-deck operation, if additional vehicles have to be held specifically for duplication with any degree of regularity. More recently, that is say since 1956, when amendment of the regulations extended the permissible length of four-wheeled double-deckers from 27 ft. to 30 ft., there seems to have been an unaccountable hesitation on the part of some operators of double-deckers to take advantage of the new authorised dimensions. The only sound practical reason for this hesitation would appear to be on account of the increase in the minimum swept circle of the orthodox front-engined 30-ft. double-decker (as distinct from the rear-engined Atlantean with its minimum swept circle of 68 ft.). The swept circle of the 27-ft. double-decker was about 62 ft. but its 30-ft. successor suffers the disability of a 70 ft. 6 in. swept circle.

As one who enthusiastically supported the representations made on behalf of our association to the Minister of Transport for 30-ft. long four-wheeled double-deckers to be permitted, I feel it is a great pity if, having succeeded, the fullest advantage is not taken of the relaxation in the former restrictions. I readily concede that there are many services which at peak times would suffer delays if operated by 72-78 seat vehicles with a rear entrance.

Economics of Large Double-Deckers

Coming now to the economics of large-capacity double-deck operation, at the time when it was first realised that a 30-ft. long vehicle would be capable of seating 72-78 passengers with eight standing, I heard of apprehensions expressed that conductors would not be able to collect all the fares when vehicles were full. The front entrance

of which are taken at an equated rate per mile throughout. This, in practice, would not prove to be the case because the lower a vehicle's total weekly mileage, the greater the likelihood of make-up time, or other penalty wages payments usually incurred in the working of part-day or peak duties.

The table does, however, show that, exemplifying a full-time bus operating 40,000 miles per annum, the extra cost of providing a large-capacity double-decker is not more than £144 per annum; 55s. per week, or 8s. per day. I suggest there are few local operating conditions where the provision of the large seating capacity vehicle is not justified. It would take the extra cost of working seven such vehicles to equal the additional cost (under-stated for the reasons explained) of adding one more 61-seater, working only 5,000 miles per annum, to the operations as a whole.

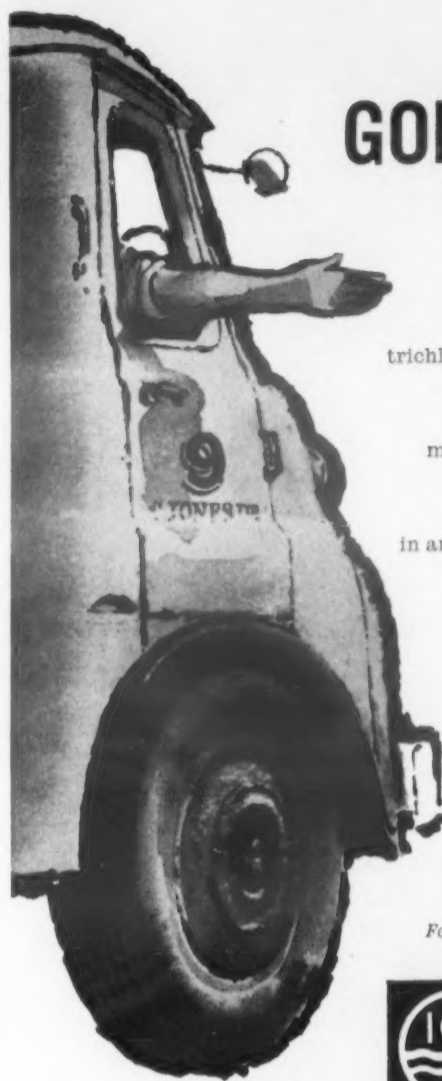
The extra elasticity given to the carrying capacity of a service maintained by larger seating capacity vehicles is, without any immediate and obvious mileage saving, sufficiently attractive in itself to justify the small extra cost. Again, who is to say positively that conditions will not arise during the 12 years' life of a new vehicle when the greater carrying capacity will be a valuable asset, even if such conditions are not encountered at present?

Bonus Schemes

If everyone is agreed that the men should be better paid — and "everyone" includes the employers as well as the men—let us not look around for unrealistic excuses which may boomerang badly in the years to come, but let us instead pay up and face the consequences. Seeing that our hours of duty are necessarily less attractive than in ordinary industry, if we are satisfied that increased wages must be paid, then why not give an added rate for, say, hours worked before 8 a.m. and after 7 p.m. on each weekday? A similar idea has been behind Sunday penalty payment of time and a half, and added penalty payment of 11d. per hour after 1 p.m. on Saturdays.

On the other hand, if there is no case for higher rates of pay, and it is regarded as imperative that we compete for labour more effectively with other industries which offer production bonus schemes, let us attempt to design a scheme based on factors, which are readily assessable, easily understood and influenced directly by the work performed by the men.

(Continued on page 14)



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* Abstract of a paper presented to the Scarborough conference of the Public Transport Association on May 19.

OPERATIONAL EFFICIENCY

(Continued from page 13)

The bonus scheme I have visualised is, broadly, to give to both drivers and conductors the benefit of one half of the savings in hours worked brought about by improvements in the number of miles obtained per hour worked. The datum line to mark any improvement would be operations at the date the scheme was introduced and, because of seasonal variations experienced by most operators, the operational results of the previous 12 months. There are various methods by which improvements could be calculated, but I have in mind bonus periods of four weeks, so planned as to take comparable account of major seasonal variations such as at Easter and Whitsuntide.

Basis of Comparison

The datum line would be provided by the four-weekly figures of the corresponding period of the year previous to that in which the scheme was introduced, and, of course, such a datum line would be fixed for all time except when there were major operational changes brought about by such occurrences as acquisition of new operations, or the permanent suspension of old operations, in which cases the effect of the changes upon the basic figures could be calculated. A re-calculation of basic figures might in some circumstances also be necessary when one-man operations were increased or reduced. Administration of the bonus scheme would cost very little indeed.

The bonus payable would be calculated thus:

Drivers' Basic Figures for 4 weeks period, 1959, say 10-15 m.p.h. worked	
Actual drivers' working hours corresponding 4 weeks, 1960	28,200
Actual miles run corresponding 4 weeks, 1960	313,020
Average miles per hour worked, 1960	11.1
Hours which would have been worked at 10.15 m.p.h. (basic)	30,839
Drivers' hours saved	2,639
2,639 hours saved represents in relation to actual working hours (to nearest second decimal)	9.36 per cent

Therefore half of savings equals 4.68 per cent of hours worked by each driver. A driver who had worked 200 hours in the four weeks would receive 4.68 per cent or 9.36 hours bonus, calculated at the current hourly rate for that particular individual driver. If at top rate of 4s. 1½d. per hour, the bonus would equal 38s. 5d. for the four weeks. A variation of this scheme might well be to continue to assess the first four weeks' bonus as already described, and then, in subsequent four-weekly bonus periods, make the assessment of bonus on

(Continued in adjoining column)

IMPORTANT CONTRACTS

Hovercraft Development Proceeds

AFTER demonstrations on the Thames to Members of Parliament and Commonwealth Prime Ministers still in London of Hovercraft SRN1 on Tuesday afternoon, an agreement was expected to be signed on Thursday between Hovercraft Development, Limited, and Vickers, Limited, under which Vickers will build two prototype craft of this type. The two new craft are to be a fast passenger launch and a larger vehicle of something between 15 and 25 tons suitable as a car and passenger ferry. Design will be a joint Vickers and Hovercraft Development undertaking and the craft are to be built at the Vickers factory at South Marston, near Swindon. The Thames demonstrations of SRN1, which has recently been fitted with an additional turbine propulsion engine, a Blackburn Marbore, took place between Westminster and Lambeth bridges; speeds of around 50 kt. and high manoeuvrability achieved were impressive.

Polyzote Insulation

J. Lyons and Co., Limited, has specified 4½-in. thick Polyzote for the insulation of 25 30-cwt. ice cream vans now under construction. Polyzote is produced by Expanded Plastics, Limited, Croydon.

Manchester Airport Development

With its present work on a run-up area and stopway at Manchester Airport nearing completion, Richard Costain (Civil Engineering), Limited, has

(Continued from previous column)

a cumulative basis for the remainder of the bonus year.

Assessment on a cumulative basis would reduce the operator's risk of paying out a high rate of bonus on the basis of comparison with the basic year of one four-weekly period, only to find that a later four-weekly comparison with the basic year had dissipated some of the gain, so that on balance a higher bonus had been paid in the earlier period than was justifiable. Such an assessment would, for example, smooth out temporary fluctuations due to icy or foggy weather conditions.

The great advantage of a bonus scheme on this or similar lines would be that it was based on facts, and on facts which are easily expressed in simple terms. It would be the more readily understood by those interested in its administration, both on the employer's side and the employee's side.

been awarded a £700,000 contract by Manchester Corporation for the construction of a new terminal apron and other work. The apron will be 220,000 sq. yd. in area and involve the placing of 100,000 cu. yd. of concrete. The other work includes storm water drainage, water supply, bulk refuelling, an extensive lighting system and earth-works. The first stage of the new airport terminal building is now being constructed by R. Costain and Sons (Liverpool), Limited.

More A.E.C. Reliances for East Kent

The East Kent Road Car Co., Limited, has placed a further order with A.E.C., Limited, for 39 Reliance underfloor single-deck passenger chassis. This follows an order for 40 now being completed with Park Royal 41-seat bodywork, and will bring the total number of Reliances in service with East Kent to nearly 200.

Eastern Region Contracts

The Eastern Region of British Railways announces the following contracts:

Standard Telephones and Cables, Limited, London, E.16, for telecommunications cables between Fenchurch Street and Shoe-buryness and connecting branches.

Cubitt and Gotts, Limited, Westerfield, for construction of signalbox at Witham.

Mr. Charles R. Price, Doncaster, for construction of 70-ft. turntable foundation in brick and concrete at Doncaster motive power depot.

Brush Electrical Engineering Co., Limited, Loughborough, for delivery and erection of e.h.v., m.v. and pilot cables, switchgear, transformers, rectifier and battery-charging equipment at March Whitemoor.

Albions in Demand

Continuing upsurge in the demand for goods vehicles for the home market is reported by Albion Motors, Limited. Typical orders placed recently include from McKelvie and Company for nine Clydesdales and nine Reivers, Bernard Swain (Transport) for 13 Reivers, Robsons Border Transport for 12 Chieftains, J. and A. Smith of Maddiston for 12 Reivers, Munro Transport (Aberdeen) for six Reivers and six Clydesdales, Penfold Ready Mixed Concrete for nine Clydesdales, Chas. Alexander and Partners (Transport) for nine Chieftains, Tartan Arrow Services for five Victors, Guests Carriers for six Victors, Spillers for eight Chieftains, Sussex Ready Mixed Concrete for eight Clydesdales, Little Heywood Transport for six Reivers and Matthew Brown and Company for six Chieftains.

SHIPPING and SHIPBUILDING

International Chamber Resolutions

THE main matters discussed at the annual meeting of the International Chamber of Shipping in London on May 13 were flag discrimination and the U.S. Federal Maritime Board's investigation into the operations of liner companies trading to and from America. Three resolutions were adopted. The first deals with the economic consequences of flag discrimination and calls for concerted action to combat it; the second stresses that shipping should be given its rightful place in the current discussions for closer economic co-operation between Europe and the United States; the third urges that it should be a condition of future international aid programmes that commercial considerations and the principle of free and fair competition alone should govern the shipment of cargoes concerned. The American delegates voted against the three resolutions but indicated that they could have given support to one of the resolutions, i.e. the general resolution on flag discrimination, if the terms of this had made it clear that the views expressed did not apply to the American cargo preference legislation.

The American delegation abstained from voting on the resolution dealing with the Federal Maritime Board investigation. This investigation asks, among other things, for complete particulars of how shipowners conduct their trades to and from the United States, including particulars of arrangements with harbour authorities, stevedores and their agents. In the case of stevedoring contracts alone, the lines concerned estimate that they would have to produce some 45,000 documents. The order extends to documents outside the domestic jurisdiction of the United States, that is to say to documents which may physically be in one or more of a score of other countries. The Chamber resolution says these requirements are excessive and asks the F.M.B. to reconsider them.

Bombay Docks Takeover

ON May 14 the Indian Defence Minister formally took possession of the Mazagan Docks from the P. and O. Company. These docks at Bombay were constructed in the 19th century by the company and cover some 35 acres. India intends to use six slipways for construction of naval craft.

First Arrival at East German Port

THE 10,000-ton cargo vessel *Schwerin* recently unloaded the first cargo at the new East German deepsea harbour at Rostock on the Baltic. When the new harbour is finished in 1965, East Germany has hopes of making itself largely independent of West German ports, as well as to capture Scandinavian trade.

Marconi Marine Argonaut Radio

A NEW 50-channel v.h.f. transmitter-receiver for marine use—the Argonaut—has been introduced by the Marconi International Marine Communication Co., Limited. It is a combined simplex-duplex frequency modulated v.h.f. radio-telephone equipment, designed to enable ships to communicate on the international calling, inter-ship, port operations, public correspondence channels and private maritime frequencies, in the band 156.0 to 163.4 Mc/s.

Scottish Waterway Cruises

A SCOTTISH firm, Highland Marine Charters, of Balloch on Loch Lomond, is to introduce two new classes of inland water craft within the next month. The more interesting is a 70-seat water coach, similar to those operating on the Seine at Paris and the Amstel in Amsterdam. General design of these passenger cruisers follows the European pattern, except that draught has been limited to 2 ft. 6 in. because of the channels involved on the Leven. A navigation bridge is also being incorporated in the Scottish craft, which follow the Continental pattern in having plastics superstructures, allowing full vision. The other innovation is a six- to eight-berth self-drive cabin cruiser for family hire.

FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

Lloyd's Packing Warehouses

Lloyd's Packing Warehouses (Holdings), Limited, has acquired for cash all the issued capital of Arthur Robson, Limited, air, shipping, forwarding, freight and travel agents, of Manchester.

Bristol Aeroplane

The Bristol Aeroplane Co., Limited, in its 50th annual report, records that net profit in the year 1959, after taxation, was £283,000 (£214,000) and on the ordinary stock the dividend for the year is 11 per cent.

Spurling Motor Bodies

For the year ended May 31, Spurling Motor Bodies, Limited, predicts a group net profit before tax of not less than £250,000 (£138,370). The final dividend will be 7½ per cent on capital which is to be doubled in a one-for-one scrip issue. This is to be followed by a one-for-three rights issue at 6s. per share.

Simms Motor and Electronics

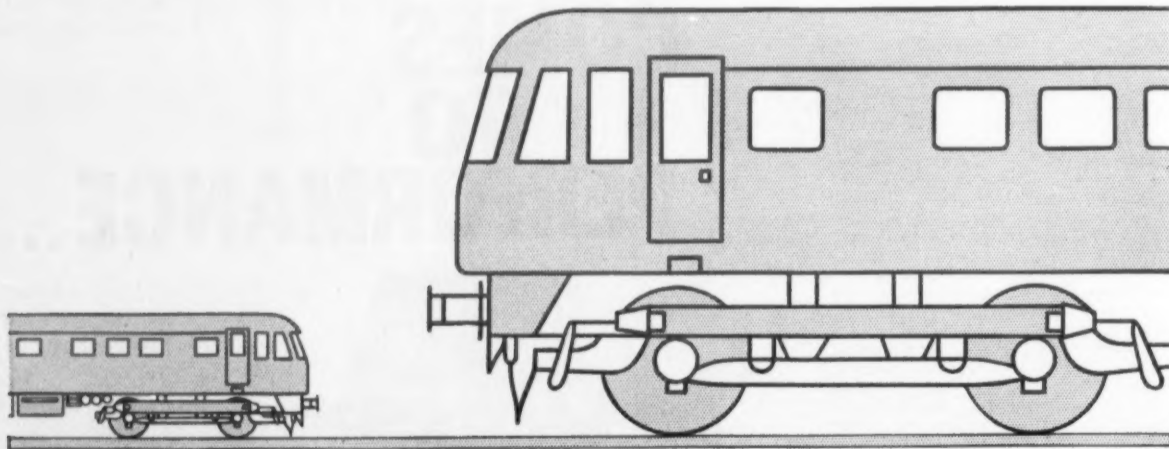
Figures just released for the financial year 1959 of the Simms Motor and Electronics Corporation, Limited, show a very substantial improvement over the previous 12 months. The group profit before taxation was £1,037,690 (£832,072). After taxation, the figures are £489,490 (£266,072). After transferring £100,000 to general reserve, a final dividend of 10 per cent was declared, making 21½ per cent for the year, including a special interim dividend of 6½ per cent.

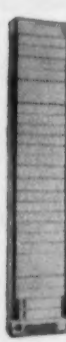

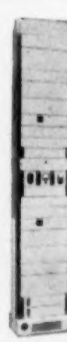

Pacific Northern Railway

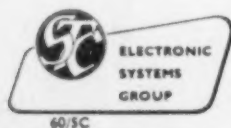
Two British and two Canadian companies are to join the Wenner-Gren British Columbia Development Company in the Canadian northern railway project. A new company, called Pacific Northern Railway Co., Limited, is to be formed. The Pacific Northern Railway plans to build and operate a 700-mile railway line through a stretch of mountain and forest country in north-west British Columbia, now served almost entirely by air and river boats. The four companies associated in the project are: A. V. Roe (Canada), Limited, Toronto, one of whose subsidiaries manufactures railway rolling stock; Ferni, Limited, Toronto, a construction company; Associated Electrical Industries; and the Cleveland Bridge and Engineering Co., Limited, Darlington.

A new British Standard for latex rubber foam components for transport seating (B.S. 3157:1960) specifies requirements for articles made of latex foam rubber. It classifies the foam rubber into nine hardness grades, the grades varying according to its "indentation hardness index"—a characteristic which is established by testing. Appendices to the new publication also deal with: indentation set; pounding test; elongation at break; low temperature flexibility; grab test; and an organic materials straining test. The final appendix provides a series of very helpful notes for designers.

-----STC and RAILWAY MODERNISATION-----
BRITISH RAILWAYS are installing STC all-transistor
-----Telecommunications systems equipment-----
-----as part of their MODERNISATION PLAN-----



 <p>For the London Midland Region all-transistor 12-circuit 2-wire carrier-on-cable telephone system in service between Manchester and Carlisle, Lancaster and Barrow, Preston and Blackburn, Manchester and Liverpool. For the Western Region between Paddington and Reading.</p> <p>STC SCT-12</p>	 <p>For the Western Region all-transistor 24-channel frequency-shift modulated, voice frequency. Telegraph system in service between Paddington and Reading.</p> <p>STC TF-3</p>	 <p>For the Western Region all-transistor 3-circuit open-wire carrier telephone system in service between Reading and Bristol, Bristol and Cardiff.</p> <p>STC STO-C</p>	 <p>For the Western Region 300-circuit coaxial cable system with all-transistor Subterranean Repeaters to be installed between Cardiff and Swansea.</p> <p>STC LD-1A</p>
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SOCIAL AND PERSONAL

President of S.M.M.T.

THE president of the Society of Motor Manufacturers and Traders for 1960-61 is Mr. Geoffrey Rootes (deputy chairman and managing director of the manufacturing division of the Rootes Group). He succeeds Mr. J. M. A. Smith (assistant managing director of the Ford Motor Co., Limited) who now becomes deputy president. Mr. M. A. H. Bellhouse (deputy chairman of the Pressed Steel Co., Limited) was re-elected for a second term as a vice-president, and Mr. D. G. Stokes (director and general sales and service manager of Leyland Motors, Limited) was also made a vice-president as successor in that office to Mr. M. L. Breeden (joint managing director of Wilmot Breeden, Limited) who now becomes hon. treasurer. Sir William Black (chairman of A.E.C., Limited) has been reappointed as an hon. officer.

Mr. K. H. J. Sinnott, M.B.E., A.M.I.Mech.E., who has been appointed managing director of the new B.M.C. factory at Bathgate, at which commercial vehicles and tractors will be built, was educated at Queen Mary's Grammar School, Walsall, Birmingham Central Technical School, and Birmingham Commercial College. He served an apprenticeship with Wolseley Motors, Limited, from 1932 to 1938. In the 1939-45 war he held a Territorial Army commission in the 5th Battalion



Mr. K. H. J. Sinnott

South Staffordshire Regiment. Transferred to R.E.M.E. he was subsequently on the invasion planning staff and Field-Marshal Montgomery's H.Q. 21 Army Group. Lieut. Colonel Sinnott commanded 7th Armoured Division Workshops in Germany, was awarded the M.B.E. and mentioned in dispatches. He returned to Wolseley in 1945, four years later was made sales manager of the Nuffield agricultural division and subsequently of the Morris marine and industrial engine division. Since 1956 he has been sales manager, Morris Motors, Limited.

The London Midland Region (London) Amateur Musical Society, the chairman of which is Mr. Lionel W. Cox, last week performed *Brigadoon* at the Scala Theatre. It was a delightful presentation



Lord Nelson, Mr. N. R. Crump and Mr. David Blee at the naming of "Empress of Britain" (see page 11)

which won acclaim by the audiences and reflects credit on the producer, Mr. James K. Leslie, the musical director, Mr. Charles Brill, and the choreographer, Miss Mona Maie Rowson. Some attractive lighting effects assisted the depiction of the mysteriously disappearing village of Brigadoon. We were entertained by some good music, good singing and good acting, the comedians especially making the most of their chances.

The following dates have been fixed for meetings of the Institute of Transport during the 1960-61 session:

1960 October 10: Presidential address.
November 14: Paper.
December 12: Henry Spurrer memorial lecture.
1961 January 9: Paper.
February 13: Branker memorial lecture.
March 13: Paper.

There will also be a shipping lecture, probably during the month of April. Four visual aids meetings are being arranged, to take place on October 18, November 23, and January 17 and March 15, 1961. The anniversary luncheon of the Institute will be on November 1 this year.

Mr. D. S. Hart, O.B.E., E.R.D., has been appointed divisional traffic manager, Bristol, Western Region, B.R., where he succeeds the late Mr. L. Edwards.

The 83,673-ton *Queen Elizabeth*, when she sailed from Southampton for New York via Cherbourg on May 19 was to be commanded for the first time since his appointment as Commodore by Captain Donald M. MacLean, D.S.C., R.D., R.N.R. Captain MacLean was appointed Commodore at the end of February while commanding *Mauretania*.

Mr. G. J. Brant, A.M.I.Mech.E., M.I.B.C.M., has been appointed chief engineer of the York Trailer Co., Limited. For the past few years he has been head of the road transport section of the sales development division of the Northern Aluminium Co., Limited, and prior to this he was works manager of the Lydney factory of the Duramin Engineering Co., Limited. Mr. J. R. Baird takes over as director of engineering of the associated York Transport Equipment group of Toronto, but will continue to direct company affairs from Corby, Northants.

Institute of Transport

THE election of Mr. K. W. C. Grand as president of the Institute of Transport for the year 1960-61 was recorded in our last issue. The vice-presidents for the year will be Messrs. A. F. R. Carling (executive, British Electric Traction Co., Limited); H. H. Crow (chairman and managing director, Crow Carrying Co., Limited); Marshal of the R.A.F. Lord Douglas of Kirtleside (chairman, British European Airways); H. C. Johnson (general manager, Eastern Region, British Railways); Alex. J. Webb (assistant operating manager (Railways), London Transport); and E. G. Whitaker (transport adviser to the board of Unilever, Limited). The hon. treasurer is Mr. F. C. Asgill (vice-chairman, Stephenson Clarke, Limited) and the hon. librarian Major-General Sir Reginald Kerr (general manager, British Waterways). General Sir Brian Robertson, chairman, British Transport Commission, whose term of office as a vice-president ends on September 30, has been elected a member of council for one year from October 1, 1960, to fill a casual vacancy.

Mr. S. C. Webb has been appointed traffic manager, Doncaster, Eastern Region, B.R., vice Mr. E. J. Stephens, retiring.

We record with regret the death of Mr. W. E. Chivers, a director of the Devizes public works and road haulage business bearing that name. He was 71.

Mr. G. R. Chimes, train running assistant to motive power officer, Waterloo, has been appointed trains assistant, Waterloo, Southern Region, B.R., vice Mr. N. L. Collins, retiring.

We regret to record the death of Mr. W. F. Crane, founder and chairman and managing director of Cranes (Dereham), Limited. He was 77. He founded the trailer manufacturing business in 1913; previously he had been in his father's timber works.

Sir Frederick Handley Page and Sir George Edwards were among those to be honoured by the Royal Aeronautical Society on Thursday this week, on the occasion of the 48th Wilbur Wright Memorial Lecture, to be given by Mr. M. J. Lighthill, F.R.S., director of the Royal Aircraft Establishment. Dr. E. S. Mout is president of the society for 1960-61. Two honorary fellowships are awarded this year—to Sir George Edwards and to Professor W. J. Duncan—and Sir Frederick Handley Page, an honorary fellow of the society since 1949, receives the society's gold medal. The society's silver medal, awarded for work of an outstanding nature in aeronautics, goes to Mr. R. H. Chaplin, executive director and chief designer of Hawker Aircraft, Limited, and the British gold medal for aeronautics, awarded for outstanding practical achievement leading to advancement in aeronautics, goes to Mr. B. E. Stephenson, F.R.Ae.S., now director of engineering, Vickers-Armstrongs (Aircraft), Limited.

Mr. Keith Granville, C.B.E., M.Inst.T., who is already a full-time member of the board of B.O.A.C. and a director of B.O.A.C. Associated Companies, Limited, is to be full-time chairman of B.O.A.C. Associated Companies, with effect from June 30, when Lord Rennell will relinquish his present function as acting chairman. Mr. Granville will vacate his appointment as deputy managing director of B.O.A.C. as from the same date.

Mr. William H. Davis has joined the board of the British Motor Corporation and will become director of production for the Austin and Nuffield groups. He has also joined the board of the Austin Motor Co., Limited, of which he was a local director. Mr. R. A. Stormonth-Darling has also joined the B.M.C. board. He is a partner in the City firm, Messrs. Laing and Cruickshank, and a director of



Holder of the world land speed record during the 1930s, Captain George Eyston last week rode the footplate of D.800, "Benbow," a Western Region diesel-hydraulic locomotive, hauling the Bristolian, fastest train in Britain. On his left here is Mr. R. F. Hanks, chairman of the Western Area Board, and right is Driver S. J. Palmer, of Bristol

the Austin company. Mr. T. G. Bradley has joined the latter board as director and general works manager, following his service as a local director. Mr. R. E. T. Couch has joined the board of Morris Motors, Limited, after being a local director, and will become a deputy director of production for the British Motor Corporation. Mr. K. H. J. Sinnott will be appointed managing director of the new B.M.C. subsidiary to be formed to operate the Bathgate factory in Scotland, constructing commercial vehicles and tractors. Mr. C. Spire, at present branch manager of Morris Commercial Cars, Limited, is to be director and general manager of this Scottish company.

The Minister of Transport appointed Sir T. Gilmour Jenkins as the leader of the United Kingdom delegation at the International Conference on Safety of Life at Sea, which opened at Church House, Westminster, S.W.1, on Tuesday.

At the annual meeting of the International Chamber of Shipping held in London on May 13, Sir Colin S. Anderson was re-elected chairman for a further period of two years. Mr. R. Bertram (Germany) was re-elected vice-chairman for a further year. The other vice-chairman elected was Mr. J. Chr. Aschengreen (Denmark) in place of Mr. Stig Gorthon (Sweden) who has served for the maximum period of two years as vice-chairman.

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Off to the Continent by sleeper and ship... and

THE CAR WENT TOO

REPORTING
RAILWAY
PROGRESS

2



1 LOAD-UP Manchester family, Riviera-bound; the man-in-charge, Mr. J. Harrison, one of thousands of wise British motorists who between last May and September let the railways take the tedium out of their journeys.



2 CHECK-IN At the local railhead. Car meets train. Place waiting. There are 14 different routes linking Britain's major cities with touring areas in this country and the Continent.



3 DRIVE-IN At the start of the journey to the sun. The few, simple formalities are soon completed, British Railways' expert official driver takes the car over at the loading bay, garages it in one of the covered vans on the train's tail. For the next 300 miles, securely held by locking bars, it will go pick-a-back: father, mother, children, on this night trip, will go to sleep.



4 STRETCH-OUT Reserved sleeping berths, four-berth compartments. No traffic lights, tension, schedules to keep to. Packed suppers and coffee to be had. Fun for the children who consider bunks much better than beds. Good temper ensured for father, mother.



5 GETTING OFF The Harrisons' is one of 18 cars, they are four of 62 car-accompanying passengers, delivered to the dockside on that day. On all car-sleeper services, journeys made in a season total over 6,000. Some 16,000 passengers go with the drivers. Enough petrol for 50 miles may be left in the tank; luggage not needed overnight left in car.



6 & 7 QUICK CHANGE Car-borne again. A mere gear-change away from the train, there's the ship; there beyond is the Channel; over there is France, adventure. There's nothing to it.



8 ALL ABOARD The drive-on drive-off car ferry swallows them like a string of ants. The man from Manchester drives his own car aboard, then strolls to the rail to relax, a horizon-scanning sailor for an hour and a half. The loading is prompt; the hooter blasts. All are aboard; all are nearly abroad.



9 & 10 BESIDE SEA And it's still only breakfast time. On the table, the fried eggs and bacon of England; back there the white cliffs of Dover, soon as invisible as Manchester. What are they doing in Manchester? Probably, many of them, congealed in traffic jams trying to get out of Manchester.



11 BELOW DECK Portrait of a happy father. Car safe below, as clean as when it came out of the garage at home. He was advised, because of heavy demands on the car-sleeper service, to book well in advance. That he did. He now has that inner glow of satisfaction. There's no doubt about it—he knows he is on to a Good Thing.



12 BEHIND WHEEL Together again, and better for the rest. What's that ahead? That Open Road. Never seen it look better.

NEXT: THE DAY OF THE DIESEL